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ABSTRACT

The five articles in this newsletter theme issue focus on the development of socioemotional and communication skills in infants and toddlers through the Partners in Parenting Education (PIPE) program. The first article, "The Partners in Parenting Education Program: A New Option in Parent Education" (Perry M. Butterfield), describes the program's approach, curriculum, evaluation, dissemination, and limitations. The second article, "Thinking about Intervention and Improving Socio-Emotional Development: A Clinical Perspective and Recent Trends in Policy and Knowledge" (Robert N. Emde), discusses prevention, the Early Head Start program (for children 0-3) and early socioemotional development as a foundation for learning and morality, and the role of PIPE. Next, in "Developing a Sense of Self and Others," Sandra Pipp-Siegel and Leah Pressman discuss procedural and declarative knowledge, the emerging sense of self and normal self-development, and the PIPE curriculum for infants from 2 months to 21 months of age. Next, Lorraine F. Kubicek, in "Helping Young Children Become Competent Communicators: The Role of Relationships," reviews early emotion-based exchanges, stresses the importance of caregiver input in the language-learning environment, and shows how PIPE encourages language development. The last paper, "Supporting Emotion Regulation and Emotional Availability through Home Visitation" (JoAnn L. Robinson and Laura Glaves), explores the mutual regulatory process, how home visitors can support emotion regulation, and the integration of PIPE and the Home Visitation 2000 program. (Individual articles contain references.) (DB)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This issue of *Zero to Three* features a new approach to fostering socio-emotional communication and development in the earliest years of life. The contributors are a multidisciplinary group of researchers affiliated with the Program for Early Developmental Studies of the Department of Psychiatry, University of Colorado Health Sciences Center.

A featured intervention approach, Partners in Parenting Education (PIPE), represents a collaboration between our group and parenting educators working with vulnerable parents and their infants. PIPE articulates major principles in socio-emotional development in materials for educators and practitioners and translates these principles into concepts, exercises, and activities that can be used in school-based programs for adolescent parents, home visiting programs, and other clinical settings.

Since the goals of PIPE center on building relationships and emotional competence and since the approach also provides a foundation for moral development and imagination — domains that have received less emphasis in previous thinking — *Zero to Three* encouraged us to present the intervention to its readership, along with its research background and current prospects.

Perry Butterfield provides an overview of PIPE's history, content, and impact to date. Robert N. Emde places PIPE within an overall strategy for developmentalists, representing a new emphasis on strengths-based approaches to facilitating healthy human development. Articles by Sandra Pipp-Siegel and Leah Pressman, Lorraine Kubicek, and Joann Robinson and Laura Glaves describe the key research-based constructs that are the foundation for PIPE and their application in practice. These include: supporting emotion regulation and emotional availability; supporting self development; and fostering communication skills.

—Robert N. Emde

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Editor's Note

How can the discoveries of infancy research make a significant, positive difference in the lives of children and families? In this issue of Zero to Three, Robert N. Emde and his colleagues in the Program for Early Developmental Studies at the University of Colorado Health Sciences Center show us how one group of researchers is making sustained — and successful — efforts to use new knowledge to guide the design of major national early intervention programs, as well as to create practical training tools for front-line practitioners and parents.

Findings from the Program for Early Developmental Studies about early socio-emotional development have been used by individual clinicians for some time. They are embedded, as well, in clinical tools such as ZERO TO THREE's *Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (DC:0-3)*, which emphasizes the young child's relationship with parents and other important caregivers as a critical determinant of emotional well-being or disturbance. But Emde and his group recognize an urgent obligation to use their knowledge beyond the clinical arena — to translate it into broad-scale public programs for families with infants and toddlers.

Unfortunately, such interventions often stress rote skills in even the youngest children and bombard parents with information that seems unconnected to their daily caregiving challenges. But interventions could be designed specifically to build strong relationships and foster emotional competence. They could take advantage of babies' inborn tendencies toward exploration, mastery, and moral development by helping parents and caregivers become more sensitive and emotionally available — and thus more likely to have self-regulating, appealing young children. Infancy researchers who were asked to advise the creators of the new Early Head Start program urged exactly this approach; the Statement of the Advisory Committee on Families with Infants and Toddlers recommends a strong, program-wide focus on strengthening caregiving relationships. Similarly, the Partners in Parenting Education (PIPE) curriculum, developed in collaboration with the Program for Early Developmental Studies, is designed specifically to foster early socio-emotional communication and development.

On behalf of Zero to Three's readers, we thank all the contributors to this issue — the researchers, whose curiosity and empathy led them to meaningful questions and answers that make a difference, and the parents and young children, who will always be our field's best teachers.

Emily Fenichel, Editor

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The Partners in Parenting Education Program:
A new option in parent education

Perry M. Butterfield, MA

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Terry was waiting for me in the hall outside the Board room. Her school books were in a back pack on a chair, and she was following Michael up the spiral staircase, carefully steadying him when he stopped to point to the frescoes on the ceiling. The doors to the Board room opened, and Terry said, "Michael, look! The doors are opening, we can go." She picked up her son and walked toward the large, shining table and the eight strangers facing her. I was relieved that Terry had been so skillful in diverting the 13-month-old from his climbing. Without a fuss, she had used surprise and interest to re-focus him toward entering the wood paneled library.

Terry had come to tell this Foundation Board about the Partners in Parenting Education Program (PIPE), in which she was enrolled as a teen parent returning to tenth grade after the birth of her baby. Terry was shown to a large arm chair, and I, as the Director of PIPE, took a seat next to her so I could "step in" when Michael became fussy. Terry opened her diaper bag and handed Michael a small box with a plastic animal inside. She took the lid off and showed Michael the animal, then turned to the panel, sank a little in her chair, and looked up at the strangers with a shy smile. In the 20 minutes that followed, Terry told the Board about her rape, explained her father's insistence that she continue the resulting pregnancy, and described her depression at the prospects of exchanging her dream of becoming an accountant for the reality of becoming a young, single mother.

As Terry spoke, I was watching Michael as he played finger games with his mother's hand. They had an obvious routine of finger-play games and face-hiding schemes. Michael directed the play as Terry remained focused on her story to the Board of Directors. Terry was also available to her son, responding quietly to his direction.

Periodically, Terry would look at Michael and smile. When he started to vocalize she would gently put one finger to her mouth and then to his. After a while, Michael shifted in his mother's lap to face the Board of Directors. He began playing eye-blinking games with various members, who responded in kind. Smiles were silently exchanged, and the conversation between Terry and the Board continued undisturbed.

Several people joined into questioning Terry. Eventually, Michael began to squirm and tried to get down from his mother's lap. I expected this would be my cue to take Michael outside, but Terry simply put the diaper bag on her lap within Michael's reach and opened it. Quietly Michael took each item out and put it on the table. The Board members smiled but didn't seem to mind. The discussion with Terry continued. When the bag was empty, Terry stopped her conversation and said to Michael, "OK, now put them back in." She replaced the first item, Michael the next. Terry returned to the questioning while she and Michael took turns re-loading the entire contents of the diaper bag except, for a bottle of milk. He handed this to her, she opened it, and gave it back. Michael settled into her arms for his snack. I never once had to assist this mutually regulated mother-baby team.

Terry told the Board about being a 16-year-old mother, and about what it meant to her to be able to return to school and use a school-sponsored child care center. But it was Michael who told the Board the most about the PIPE program, which is designed specifically to help adolescent mothers build loving relationships with their babies. PIPE is based on understanding, trust, sharing emotions, interdependence, respect, regulation, tolerance, and emotional refueling. Michael showed us his sense of autonomy within their relationship by directing the play with his mother, by extending the play to other members of the group, by exploring the diaper bag, and by selecting his bottle when he became hungry. He demonstrated his sense of regulation and self-control by stopping his vocalizations at a signal from his mother, shifting quickly from squirming to purposeful emptying of the diaper bag, and helping to put away what he got out.

Michael knew that his Mom was available to him, even though she was otherwise occupied. He imitated her by turning to the group and interacting with them also. Mom never scolded, yet Michael knew when guidelines and limits were being set. In sum, Michael demonstrated how an emotionally available, aware, and skillful parent can have an active, interested, yet well-regulated toddler.

Why was Terry able to be so available and skillful with Michael? She was raised in a divorced family, moving between parents with very different values. Terry's older brother was a gang member, she had no younger siblings, and she had never baby-sat as a pre-teen. When she learned she was pregnant, she was despondent about the prospects of motherhood. Fortunately,

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Terry wanted to return to school quickly after Michael's birth. And even more fortunately, the PIPE program was available in her school, to support Terry's development as a mother. Terry will be able to be in the PIPE program during her junior and senior years. She is one of 10 student mothers in the program, which is about the average number accepted in a parenting class.

Unlike traditional parent education curricula, the Partners in Parenting Education (PIPE) program focuses on emotional communication, mutual regulation between parent and baby, and relationship-building skills. Through the demonstrations and interactive sessions that are an essential part of PIPE, Terry learned to appreciate the beauty of her new baby and how much he could already tell her about his feelings. A natural motivation within her was ignited. Terry fell in love with the baby she had not wanted to have.

Through the lens of PIPE, Terry could see how her baby looked to her for guidance and modeling. She began to value what she was learning about being a parent. In supervised interactive sessions with Michael at the child care center, Terry had time to practice her parenting skills, applying to her own baby the information about emotional development she was learning in the PIPE curriculum. Terry began to feel successful as a parent. After a year's experience with PIPE, she could show the Foundation Board that she was proud of her parenting and proud of her son.

The essay that follows describes how the PIPE program evolved out of the concerns of two groups: 1) parent educators, who wanted their efforts to result in improved parent/infant interaction and 2) child development researchers, who wanted to share their knowledge of the bi-directional effects of emotion sharing between parents and babies. PIPE was conceived and tested step-by-step in the field. Its content and teaching strategies have been devised to respond directly to the needs of parenting educators and the interests, needs, and learning abilities of their students.

A new approach to parenting education

The PIPE program was designed for adolescent parents, like Terry, who are returning to school after childbirth. Our goal is to teach these parents the skills of emotional communication, emotion regulation, and relationship building. Child development research in the last 10 years persuades us that in the early years, learning and development are defined and expanded in the context of relationships. The first and most consistent relationships that a baby experiences are with parents. Therefore, all of the PIPE curriculum is grounded in recent research (by Brazelton, Emde, Morgan, Sroufe, Stern, and Tronick, among others) on emotional development, emotion sharing, emotional communication, emotions as organizers and regulators, and emotional refueling.

PIPE began in 1989, when a group of high school parent educators and child care providers approached me,

Barbara Young

as a member of Robert Emde's Program for Early Developmental Studies at the University of Colorado School of Medicine. After some initial discussions about how to reach our common goal — improving the quality of interactions between adolescent parents and their babies — we joined forces to develop what became Partners in Parenting Education, a model that was piloted in five schools in the fall of 1990.

We recognized from the beginning that concepts having to do with feelings and relationships of teen parents and their children need careful placement within a public education setting. Fortunately, in Colorado many high schools sponsor child care centers in close proximity to the school and require that mothers who return to school take a parenting class as one of their course requirements. This situation offers a unique opportunity to expand the usual didactic parenting course into a laboratory course, with the child care center serving as a supervised experiential learning lab for parents. In this setting, it becomes possible for the parenting educator (usually a family and consumer studies teacher) and the child care provider to work together as a teaching team. Their common goal is to help adolescent par-

ents translate parenting information into positive interactions with their own young children.

An essential "partner"in the PIPE teaching team is the baby. The technique of using the baby as teacher, of "talking through the baby" or being the voice of the baby, was designed to facilitate parental empathy, respect and availability. By channeling all learning through the student's own child, the parenting educator and child care provider capitalize on the natural motivation of teen parents to want to do well with their babies. Talking through the baby also lowers adolescent defensiveness to criticism or control by others. For these parents, learning to view their baby as an individual and a partner establishes the pathway for learning how to listen to and regulate their baby. As parents become engaged in this process, educators can assume a facilitative, rather than a directive role.

Using the baby as teacher was an unfamiliar method of teaching for most of the parenting educators who agreed to try the PIPE approach. Training, team building, video observation, and practice have helped them adapt their traditional didactic approaches. Interestingly, talking through the baby seemed quite natural for child care providers from the beginning. Indeed, this technique increased their comfort with their new teaching role. Most competent child care providers show a keen ability to interact with infants. With appropriate training, they have been able to take on the additional roles of facilitating and supervising parent/infant interaction assignments during the lab lessons in the child care setting.

PIPE has been well received by the child care providers. They tell us that they feel energized by having a parent education dimension added to their role. In our experience, child care providers have enjoyed demonstrating the concepts that parenting educators have introduced in the classroom; they have also enjoyed becoming a model for parents. Because child care providers are familiar with the babies in their center, they are uniquely well equipped to individualize parenting lessons, helping each parent apply concepts and principles to their own baby's unique temperamental and developmental profile. Since many parents "hang out" in the child care center during their lunch periods or free time, child care providers have opportunities throughout the week to reinforce the lessons taught in class and practiced in lab sessions. In this way, they are helping each parent build her skills and meet the developmental and temperamental level of her baby. Mothers in the program have also signed up to be helpers in the child care center, giving an additional hand to the staff while also being near their baby.

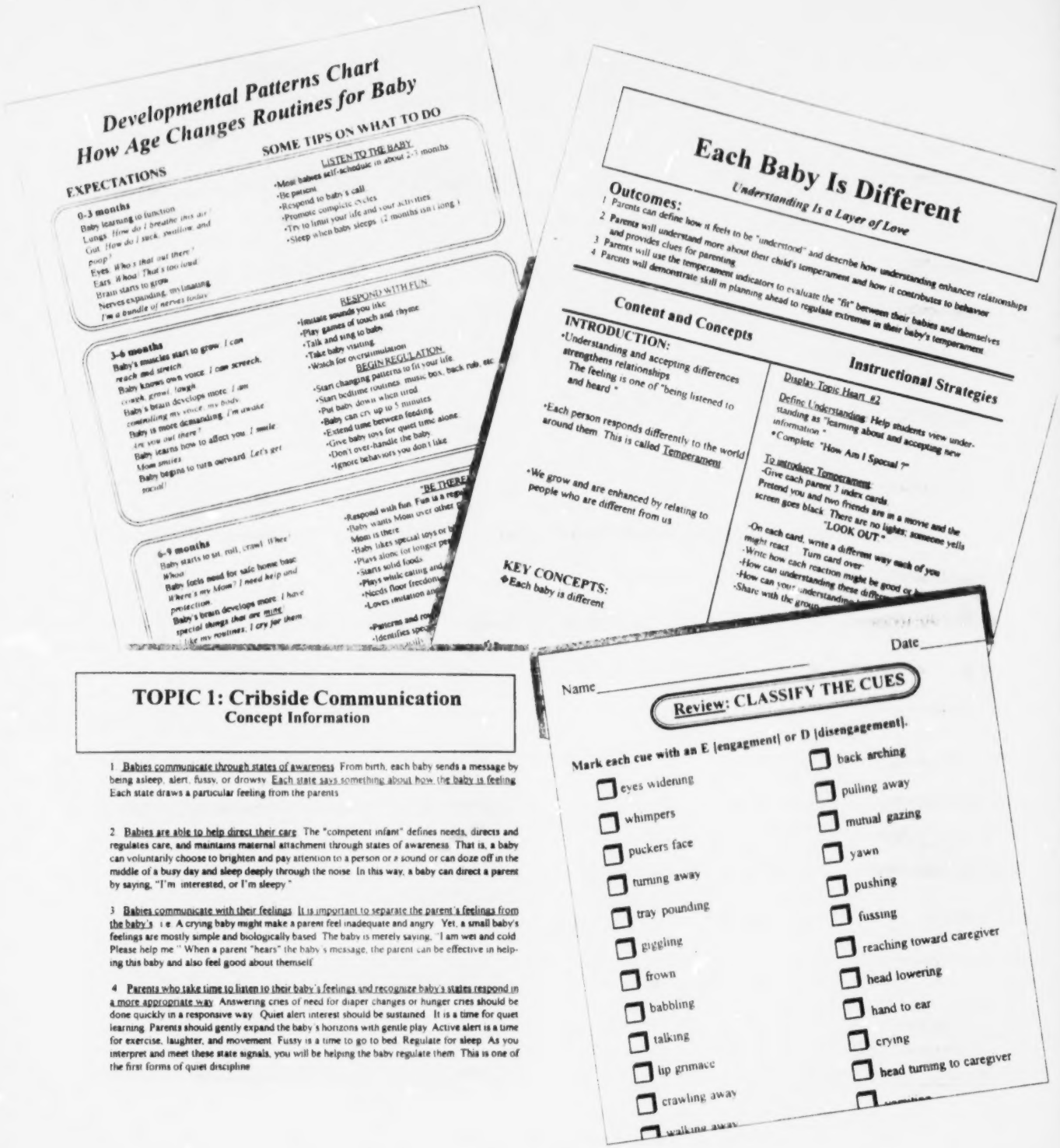
A new curriculum

Our team realized that in addition to a new, supervised experiential learning technique, we also needed a new guide to presenting information — a new curriculum.

Some of the educators who were helping to develop PIPE had been teaching parenting to adolescents for as long as 15 years. Their experience and frustrations had led them to review curricula available to parent educators. They found excellent information on child development in the pre-school years and good information about general development, health care, nutrition, safety, cognitive stimulation, and toys for infants. But they found little information for parent educators about emotional development or emotional communication between parents and infants during the first three years. We set about developing our own materials.

We began by writing and producing three videotapes specifically designed for adolescent parents (see Videotapes column, this issue). These tapes are specific to adolescent parents. They use mothers and fathers from two high school child care centers in the Denver area. We chose subjects which were particularly salient to adolescent parents: 1) how to listen to an infant and understand his cues and needs; 2) issues surrounding love and being loved; and 3) playing with a baby as important to learning and development. Designed to be used in the context of a discussion group, the tapes include illustrations of both good and problematic interaction and are formatted in sections with "stop-action pauses" so that viewers can react to the action and messages of each section. After educators had used the tapes during a school year in the classroom component of PIPE, they met in groups during the summer of 1990 to refine their teaching strategies around the material on the tapes for the next fall's classes. As these educators began to try the experiential technique and to see relationships between parent and baby strengthen, their creativity and energy for change began to build. Summer work groups continued, and by the summer of 1992, a comprehensive PIPE curriculum was born.

The development of the PIPE curriculum was funded initially by the Colorado Community Colleges and Occupational Education Services. After the pilot phase, the copyright was released to a non-profit organization, How To Read Your Baby, whose mission is to prepare and disseminate information for parents. This organization remains the base of funding for the continued development and dissemination of PIPE. (To avoid con-



fusion with other groups with similar "partnership" names, we are usually referred to as Read Your Baby/PIPE.) We have received continued funding from the Hunt Alternatives Fund, the March of Dimes and Birth Defects Foundation, The Colorado Youth Crime Prevention Initiative, The Gary-Williams Energy Corporation, and the American Academy of Pediatrics, District VIII Section on Perinatal Pediatrics. In-kind support has come from the University of Colorado Health Science Center, Department of Psychiatry and Department of Pediatrics.

The current PIPE curriculum integrates videotape,

academic lessons, demonstrations, and interactive activities, with materials to support them. The curriculum includes three units: *Listen, Listen, Listen* (about communication skills); *Love Is Layers of Sharing* (about relationship building); and *Playing Is Learning* (about the development of social skills, and how parents teach and babies learn). Each unit covers 8 to 10 topics. The time it takes to teach a topic will depend on the amount of class and "lab" time available and the amount of information an educator wants to give the parents. In some settings, classes are held only once a week, with both class and interactive sessions scheduled for a single morning or evening. The curriculum takes longer to complete with such a schedule, but seems to work well.

Materials are written for parents with limited literacy skills. There are crafts, games and tactile tasks which engage mothers as young as 14 years, with additional information and work sheets suitable for adults or adolescents with stronger cognitive and literacy skills.

Listen, Listen, Listen focuses on communication skills — how babies communicate feelings and needs through changes in state of consciousness, face, voice, and body cues. This unit defines engagement and disengagement cues, discusses the development of varied infant responses, and ends with an introduction to language development. From the parental perspective, this unit teaches co-regulation skills; how parents communicate to infants with their face, voice, and emotional cues; how touch should be used respectfully to regulate and to stimulate an infant; the impact of patterns and schedules on infant behavior; how to "scaffold" during play; floor play and autonomy in playful relationships; language development; and the use of rhythm and song to communicate and regulate. This unit is especially useful for the first 15 months.

Love Is Layers of Sharing is about building relationships of all kinds. It covers the many meanings of the word "love" and the many facets of a relationship. Temperament and individual differences in parent and baby are identified and then merged into a suggested mutual regulation pattern. There are topics on building a trust base, establishing feelings of safety, and understanding the impact of emotion communication. The unit includes chapters on the power of positive emotion sharing to organize behavior and the power of negative emotion sharing to caution or inhibit behavior or to disorganize and frighten the baby. Chapters focused on "letting go," autonomy, problem solving, and emotional refueling serve to develop parents' overall life skills, as much as to teach them about parenting.

Playing Is Learning moves to the second and third year of life. This unit speaks to the development of social skills and how parents teach and babies learn. Learning to cooperate, negotiate, and navigate rules and limits are difficult issues for both parent and child. This unit focuses on play as a medium for learning all skills. Chapters on parent as teacher give specific guidelines for communicating clearly to a baby, presenting information for easy learning, and allowing baby autonomy within suitable limits. This unit covers developmental milestones, setting expectations, teaching and discipline styles, readiness to learn, teachable moments, problem solving techniques, and how to read to a toddler. Lessons on how to manage anger (for both parent and baby) are included, as behavior management is a priority in the second and third year. Concrete examples and vignettes illustrating specific behavior management situations thread through each chapter.

PIPE materials focus consistently on both partners in the parent/child relationship. They discuss the parent's feelings and needs as well as the infant's feelings and needs. Each unit includes information on communication patterns and negotiation/regulation skills appropriate for the age range covered. In addition, each unit includes lessons on temperament, autonomy, relationship building, problem solving, and emotional refueling. Each unit repeats PIPE's overall emphasis on the power of shared emotions for defining or disorganizing interactions and relationships.

In all three units, each lesson provides the instructor with a theoretical overview of the concepts to be taught (see Cribside Communication), followed by a sequence of teaching strategies and suggestions for introducing the topic (see Each Baby Is Different). For each topic, the curriculum includes teaching aids such as transparencies, information pages (see Developmental Patterns Chart), worksheets or study sheets and review/evaluation pages (see Classify the Cues). The curriculum also includes suggestions to enhance each topic, such as ideas for posters, entries for parents' journals, and tasks to take home and share with the extended family. The curriculum is designed to provide a broad base of information. It becomes the task of the educators to select and to individualize the lesson to their setting and their students.

After a classroom lesson on a given topic, a demonstration of the lesson takes place in the child care center or during a planned time when parents bring their infants to the education session. Suggested demonstrations are described in the curriculum text. A supervised experiential learning lab follows the demonstration. In a school setting, this usually occurs on another day. In a community center setting, supervised interaction often occurs on the same day as the lesson and demonstration. This interactive session gives parents a chance to practice specific interactions. The PIPE curriculum includes instructions for each interactive session. Sessions can be set up in many different ways, depending on the needs of the participants and the class time available. Since the purpose of this session is to focus entirely on each parent's interaction with her own baby, the task is not a group activity. Each parent chooses a corner or spot in the room to set out her mat and then selects several tasks for the baby to choose from. The educators

roam throughout the room, advising each parent-child pair on an individual basis. These sessions are often video taped, with parents' consent, and the video tape can be reviewed with each parent in a private counseling session. Often tapes are used in class as examples for teaching other parents.

PIPE puts fun into every lesson. Because we believe in modeling the power of sharing positive emotions, PIPE materials include puzzles, games, party themes, ice cream recipes, ideas for "pamper parents days" and award ceremonies. Movie days with structured tasks, such as grading Mary Poppins on her behavior management techniques, combine fun and integrative thinking. Teddy bears are made, and then they are given new clothes as expected changes in relationships between child and parent are discussed. The curriculum reminds educators that planning fairs to exchange baby clothes, visits from resource persons in the community, and field trips to other child care centers or libraries are all valuable ways to increase parents' networks of relationships and resources.

Because adolescents absorb information best when it is concrete and presented in small bites, each topic in PIPE builds a foundation for the next. Each bite adds a new dimension and a new skill. Each new piece of information applies to adults as well as to infants and speaks to feeling as well as to process. This structure is designed to establish early patterns of relationship, which should become habits for positive parent-child interaction. In addition, the relationship skills learned in the PIPE program are intended to generalize beyond the baby to other relationships in the parent's life.

The PIPE curriculum is not intended to include all the information needed in a course on parenting infants and young children. PIPE does not address all the topics in depth, nor does it attempt to include information that is already well addressed and available to parent educators. PIPE materials include references to materials from many other programs. When incorporated into parenting education programs such as Parents As Teachers, NCAST's Keys To Caregiving, and The Portage Project, the "fit" has required little adaptation; each program has seemed to enhance the other by expanding the information base for parents.

Evaluation of the pilot design

An evaluation of the pilot design for Partners in Parenting Education (PIPE) was begun in the autumn of 1991. A school-initiated study examined PIPE's effectiveness in increasing emotionally positive and reciprocal mother/infant interactions and in decreasing adolescent mothers' punitive or demanding interactions with their children. The study also tested our hypothesis that the PIPE curriculum would help mothers understand their infants' feelings and needs accurately and increase their ability to correctly discriminate emotional signals in others. These mothers could then be expected to feel more competent as parents and begin to enjoy being a parent, an experience which would increase their overall self-esteem and goal orientation.

A pre-test/post-test design was used with 105 mothers who were in school-based parenting classes using the PIPE pilot curriculum and whose children attended a school-sponsored child care center. The instruments selected for use when a student entered the class and at the completion of one of the PIPE curriculum units (8 to 10 topics) included: 1) a standard set of questions which tapped mother's attitudes about herself and her emotionality; 2) a demographic interview which defined living situation , perceived and actual support systems, and goals and planning for the future; 3) a structured temperament survey about mother's perceptions of her infant; and 4) a standardized instrument which measures parental emotional interpretations of pictures of infant facial expressions. The parent educator and the child care provider also completed a standard pre and post questionnaire about each student's emotionality and parenting attitudes.

Test results revealed that after one unit of PIPE, 10 weeks of class time, these 105 mothers showed significant changes in their ability to define emotionality in infant faces; perceived their babies as more interesting and fun; felt that their babies preferred them to others; and felt good about their parenting skills. The independent evaluations of both educators and child care providers agreed that the mothers saw themselves as more confident, contented, interested, and happy, and less angry and guilty than they had before the PIPE experience. When asked to identify "stressors in your life," mothers listed only half as many stressors on the post-test as on the pre-test. "School" was cited most often as a stressor on the post-test, while "Baby" was cited most often on the pre-test. Finally, these mothers appeared to change their personal strivings during the PIPE experience. Nearly one-fourth declared college as a goal, and an equal number were geared toward gaining a high school diploma and had a plan in mind. This represented a significant increase in education directed goals from the pre-test.

It is also worth noting that during the period of the study, school attendance in the PIPE group increased, and there were no repeat pregnancies. Five of the mothers returned to their family of origin from estranged situations.

These findings suggest that PIPE may have an important positive impact on the understanding of emotion and emotion communication for adolescent mothers. However, results must be interpreted cautiously, recognizing that the study was not conducted by an independent evaluator, did not include a comparison group, and did not follow mothers beyond the school year. Since the evaluation of the pilot PIPE model was completed in mid-1992, the scope and materials of PIPE have been expanded and better integrated. The time is

ripe for a systematic controlled evaluation that examines outcomes for both mothers and children.

PIPE outside the classroom

The PIPE method and curriculum now have been adopted by programs beyond the high school setting, such as community centers and church parenting programs. Home visitation models, alcohol and substance abuse therapeutic programs, Early Head Start centers, Healthy Families America projects, social service programs, and foster parent groups have adapted it to their use. When used outside a classroom setting, the PIPE curriculum requires adaptation. Since the PIPE manuals are not designed to be used from beginning to end in a developmentally based program, such as a childbirth preparation/new parent group or a home visitation program following women from pregnancy onward, staff of such programs must individualize the materials to their situation and to the needs of individual parents. We are currently writing a manual for adapting PIPE materials to a developmental format.

Whatever the setting, training in the PIPE method is recommended to help implementers gain skill in specific techniques for conveying theoretical material effectively to adolescent and high risk parent learners. Many educators find training in facilitation techniques useful, and it is important for would-be PIPE partners to recognize that they may encounter barriers to establishing this model within some institutions. Courses to help educators and counselors adapt PIPE to their own setting are offered several times a year through Read Your Baby Inc. in Colorado, with trainers including psychologists, educators, child care providers, and home visitors. Their collective experience reflects the combined experiences of programs that are already using PIPE.

PIPE's limitations

PIPE manuals are not prescriptive. Offering a wealth of information and ideas appropriate to different situations and parenting skill levels, the PIPE curriculum is designed to be used flexibly and to enlist the creativity of the educator. Indeed, "generic" examples and suggested demonstrations require thoughtful and sensitive adaptation. For example, in the lesson on rhythm and music, we suggest that every parent sing to her baby and encourage students to identify a lullaby. Although we name the Brahms favorite as a prompt, lullabies or songs from the students' own culture would be more appropriate. In the topic on Touch, we recommend a demonstration of simple infant massage, which the parents can practice with their babies under supervision. For some women, this type of touch evokes memories of abuse, and they refuse to take part in this interactive session. In respect for these parents, an educator will need to offer these parents a different lesson format.

PIPE is not a treatment program. This educational program is designed to define the components of relationship in a concrete fashion, give young parents an understanding of the role they play in shaping their infants' social/emotional and developmental competence, and offer positive alternatives in parenting options. Although PIPE may help educators identify mothers who may need more support or counseling than a parenting education course can provide, it does not equip parenting educators and child care providers to elicit or deal with students' personal histories or serious emotional difficulties.

PIPE can be used to augment therapeutic approaches. For example, a therapist at a failure-to-thrive clinic who used PIPE concepts as a point of departure for discussions with parents called us to say that her attendance had never been better and conversations with parents were more open and frank. In programs for parents dealing with substance abuse that include court-ordered parenting classes, counselors and educators find that synchronizing their counseling approaches around PIPE topics opens important conversations in both therapeutic sessions and the classroom.

PIPE has **not** yet been used with parents of infants with special needs, since it is based on current knowledge about the mutual regulation effects of emotion sharing in the healthy baby. Although we believe that "reading your baby" and positive emotion sharing are of utmost importance in fostering the self-development of infants with special needs, investigation and development of a PIPE model for this population still lie ahead.

PIPE is about the next generation

The PIPE program is currently being used in 32 high schools and seven community-center parent education programs in Colorado and in school-based programs in Maine, Massachusetts, Michigan, New Mexico, Oregon,

Puerto Rico, Virginia, and Wyoming. It is being used in 14 "Special Connections" Colorado Alcohol Drug Abuse Division therapeutic units and in Home Visitation 2000 (see Robinson, this issue) and will be used in Early Head Start Programs in Colorado and Utah. Educators tell us PIPE is easy to use. Child care providers participating in PIPE say that they feel confirmed and helpful to students, and that student attendance increases on "PIPE days." PIPE's small bites of information and the concrete teaching tasks seem relevant and important to teen and high-risk parents. Moreover, PIPE's experiential focus gives parents an opportunity to recognize their own skills and what is meaningful in their relationships with their babies.

Parent education models have a specific niche and limited expectations for the very high risk parent. PIPE is designed primarily for parents like Terry (the mother described at the beginning of this article), who need only to be re-connected to the biologic loop of emotion sharing which is built into most every mother/baby relationship. Terry also learned some parenting skills and some skills of relationship building that had not been part of her life experience. By helping such parents and their babies learn positive emotion sharing and mutual regulation skills, PIPE does a service to this generation and to the next. But consider the experience of another PIPE participant, twice Terry's age and with even greater challenges to overcome:

Marie is 35 years old, a participant in an intensive drug treatment program that includes two afternoons a week of PIPE. Although she has lost custody of her three older children, she is very involved with her fourth baby. She tells us, "This is the only one of my babies that's caught my heart. I won't lose this one because I can hear her. She tells me she needs me straight. She'll keep me straight. I know what to do about this baby. She doesn't set me off because I know what to do for her. It's so different from my others, we're gonna stay together and work it through right."

PIPE was designed for young, usually first-time parents. But if this model can also provide the resources to help an infant "catch the heart" of a parent like Marie and keep Marie in counseling and motivated toward change, then perhaps there is hope that such prevention models can play a role in helping many in our troubled society "stay together and work it through right."

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Thinking about Intervention and Improving Socio-emotional Development:

A Clinical Perspective and Recent Trends in Policy and Knowledge

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Public policy discussions about what is necessary for mental health interventions in infancy and toddlerhood are intensifying. Much of the early debate was stimulated from concerns of infant psychiatry. As a result of awareness in this area, professionals came to agree that we need to attend to the young child's safety and deal with the consequences of trauma. Most also came to agree that we need to attend to identified problems and disorder in the child's behavior of this age — whether manifest in mood, feeding, sleep or in major difficulties of communicating and relating (see *Diagnostic Classification: 0-3*, 1994). And now, most experts would agree about more. Our interventions need to attend to disorder in caregiving relationships— whether manifest in overt abuse or in more subtle contexts of under or over involvement (see Sameroff and Emde, 1989). But the above has to do with identified problems and disorder. What about promoting health and development? More specifically, what about fostering early socio-emotional development? We are now in a time of change in public awareness and thinking about these matters. Many have now agreed that there is enough knowledge to attend to socio-emotional development with broad scale programs of intervention in zero-to-three populations at risk for both concurrent and later problems. A consensus of professional opinion has also come to recognize that early socio-emotional development is crucial for building strengths that will buffer against disorders not only of this age period but also against disorders of later ages that involve school engagement, social relatedness, conduct, and mood.

Still, the above has focused on disorder and its prevention. As important as this is, public discussions are now recognizing the shortcomings of such a view from the standpoint of early preventive interventions. This is so for several reasons. First, basing prevention efforts on outcomes of diagnosed disorder can be misleading. Diagnostic classification is important for communication among professionals, and for bringing knowledge to bear about course and treatment with respect to particular identified syndromes. But our diagnostic classification systems are to some degree arbitrary as well as incomplete— and they are changing. Until 1994, for example, we did not have a diagnostic classification system that gave sufficient coverage for the problems of 0-3; even today, clinicians recognize that the current DC: 0-3 system (like DSM IV) is tentative and awaits revision after trials of application, further experience and new knowledge. Thus basing one's thinking of prevention solely on a moving target of diagnosis is at best problematic. Second, the thresholds of what is disorder and what is not disorder are often uncertain. The concerned clinician may want to prevent severe problems encountered in practice that do not reach criteria for diagnosis in a given classification system. Third, there is growing dissatisfaction with a disorder-deficit model for driving our thinking about facilitating healthy human development. This is especially so among people who are socially disadvantaged or who have identified disabilities where practitioners point to the importance of recognizing strengths and building on them. Most parents and interventionists, in practice, do just that: they gauge competence of individuals in particular areas of functioning and work for improvement. Such a practice, in fact, can be thought of as a defining strategy for developmentalists. We know that it is only by identifying and working with strengths that development is advanced, individuality is affirmed, and alternate pathways to healthy development can be discovered.

Thinking about prevention in terms of development: What are we preventing? What are we strengthening?

The developmentalist, according to the above line of thinking, sees preventive intervention in broader terms than those linked to diagnosis. These can be thought of as: 1) preventing developmental compromise and problems of adaptation and 2) strengthening individual pathways for development. Such a scheme links aspects of traditional prevention of disorder with health promotion and is presented in Table A. The scheme guides

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our Program for Early Developmental Studies and serves as a background for PIPE.

Table A: A Developmental Scheme for Thinking about Prevention

What are we preventing?

Developmental compromises and problems of adaptation in:

- learning (e.g. learning inhibitions and failures)
- the formation and maintenance of relationships (e.g. relationship disturbances—*DC:0-3* Axis 2)
- emotional regulation (e.g. internalizing problems in behavior—*DC:0-3* Axis 1 Disorders of Affect)
- behavioral conduct (e.g. externalizing problems in behavior—such as planning difficulties, dysregulation of aggression, problems of reciprocity and empathy)
- risk-taking behaviors and exposure to physical illness (e.g. accidents and injuries, lack of immunization, poor utilization of health services, poor nutrition, substance abuse)

What are we strengthening?

Individual pathways for development, including:

- motivation for learning and positive experiences with exploration
- motivation for reciprocity in relationships, communicating and positive experiences with caring and support
- confidence in the use of emotions for self and other; consistent emotional experiences with significant others that includes shared positive emotions and conflict, as well as play and imagination
- character-sense that includes planning skills, confidence in mastering challenges, effectiveness in social exchanges, and a sense of "conscience" or responsibility
- safety and health

The scheme of Table A also indicates that preventive intervention for mental health is as relevant for the field of education as it is for psychiatry, social work, psychology, occupational therapy and other clinical disciplines. That this kind of thinking has gone beyond traditional clinical and developmental fields, into pervasive concerns about early childhood education, is indicated by the recent public policy initiation of Early Head Start.

Early Head Start and improving socio-emotional development

Early Head Start (EHS) began after increasing public recognition of the importance of the zero-to-three years age period— a time when the child develops a basis for social skills and motivation for learning. Head Start experiences, accumulated over a quarter of a century, brought a strong message about the importance of improving social competence as a central focus for educational intervention with children of poverty (Zigler and Muenchow, 1992). Such experiences also pointed to instances where Head Start interventions were unsuccessful; and in these instances a growing conviction formed: often such interventions were "too late"—and earlier Head Start interventions were called for. A public "will" for initiating an early Head Start grew, and was enhanced by a number of "consensus documents" written by child development experts and a variety of concerned citizens. These included a report from the Carnegia Corporation (1994), the Packard Foundation Report (1995); a report from the Institute of Medicine (1994) and publications from ZERO TO THREE, such as *Heart Start* (1992).

The Early Head Start Program was launched in October, 1995 with funding of 68 sites across the U.S. Prior to its funding, a national advisory committee was assembled to review what was known and to provide both a rationale and guidelines for programmatic interventions. The report which followed gave particular recognition to the developmental needs and characteristics of the 0-3 age period for children in poverty.[1] The basis for thinking about the developmental beginnings of later social competence and learning in the preschooler was elaborated in the report, which stated that child-caregiver relationships are central and that relationship building should be a core aspect of interventions. Further, in summarizing recent research, the guidelines for EHS also highlighted the importance of socio-emotional development within the caregiving relationship as a key feature during the early years. A selected quote seems worthwhile since it specifies components that are also featured in PIPE.

. . . (C)hild caregiver relationships . . . are critical for providing infants and toddlers support, encouragement, continuity and emotional nourishment necessary for healthy development and the development of healthy attachments . . . Within the context of caregiving relationships, the infant builds a sense of what is expected, what feels right in the world, as well as skills and incentives for social turn-taking, reciprocity, and cooperation. . . . The infant's activities are nourished and channeled in appropriate ways so as to

1. ZERO TO THREE board members had a strong presence in the Advisory Committee that composed the EHS rationale and program guidelines. Committee members were: Susan Aronson, Kathryn Barnard, Mary Jane Bevins, Helen Blank, Sue Bredekamp, Urie Bronfenbrenner, Bettye Caldwell, Jane Campbell, Gayle Cunningham, Sharon Darling, Amy Dombro, Anne Cohn Donnelly, Robert Emde, Lily Wong Fillmore, Susan Fowler, Olivia Golden (chair), Sarah Greene, Judith Jerald, Linda Kills Crow, J. Ronald Lally, Joan Lombardi, Harriet Meyer, Evelyn Moore, Genoveva Morales, Dolores Norton, Maria Elena Orrego, Carol Brunson Phillips, Deborah Phillips, Ed Pitt, Gloria Johnson Powell, Linda Randolph, Julius B. Richmond, Ann Rosewater, Shirley Senegal, Lisbeth Schorr, Helen Taylor, Sally Vogler, Bernice Weissbourd, Edward Zigler, and Barry Zuckerman.

encourage a sense of initiative and self- directedness. During the toddler period, the child, through repeated interactions with emotionally available caregivers, also begins to learn basic skills and self-control, emotional regulation and negotiation. . . . Empathy for others and prosocial tendencies for caring and helping also develop during toddlerhood as well as the emotions of pride and shame; experiencing and learning about these capacities require responsive caregiving relationships in the midst of life's inevitable stresses and challenges . . . A sense of pleasure, interest and exploration, early imaginative capacities, and the sharing of positive emotions also begin in infancy—all of which require repeated and consistent caregiver relationship experiences and form a basis for social competence that carries through toddlerhood and the preschool period. . . . The opportunities for play for both infant and caregiver, as well as the skills that develop from play, are often under-appreciated aspects of healthy development (U.S. DHHS, 1994, p 7.).

The guidelines also give emphasis to relationship-building and its modeling throughout what are envisioned to be successful EHS programs. "The network of caring relationships provides an ever-expanding circle of support for both child and family. . . . A major focus for Early Head Start services should be the development of healthy and skillful relationship building between very young children and their parents and caregivers . . . opportunities for sustained relationship-building over extended periods of time will be an explicit goal throughout the program (p. 8)."

What do we know? Early socio-emotional development as a foundation for learning and morality

The Early Head Start guidelines have a background in knowledge from research. The field of attachment research over the past two decades has documented that the formation of intimate, caregiving relationships and the psychological capacity for relationship-building are central features of human adaptation; these are profoundly important for enabling healthy development in the early years (for example, see Goldberg et al., 1995). Other recent multidisciplinary research has supplemented this knowledge. It has highlighted a set of inborn tendencies, built into our species by evolution and present in earliest infancy, that are fostered by caregivers who are emotionally available. As a way of summarizing this research we have articulated a descriptive theory that refers to these tendencies as "basic motives." Such basic motives, since they continue throughout life, can also be thought of as fundamental aspects of development itself. In infancy, we have proposed that such motives contribute to an early sense of self as well as a sense of emotional consistency and empathic readiness (what we have referred to as an "affective core of self"- see Emde 1983). Basic motives become consolidated during the experiences of early caregiving.[2]

Activity is a first basic motive. It is included in all contemporary theories that summarize knowledge about development. Given a consistent caregiving environment, the infant is active, exploratory, and motivated to master the world and realize developmental agendas (Emde, 1988; Emde, Biringen, Clyman, and Oppenheim, 1991). *Self-regulation* is identified as a second basic motive, referring to the fact that there is an inborn propensity for regulation of behavior, as well as physiology. Such regulation includes cycles of sleep, wakefulness, and attentiveness, as well as a longer term built-in propensity for an individual's attaining species-important developmental goals such as self-awareness, representational thinking and language. *Social-fittedness*, a third basic motive, summarizes research that indicates the extent to which infants are motivated and pre-adapted for initiating, maintaining, and terminating human interactions. Many researchers have documented the extent to which there is a biological preparedness for the dynamic complexities of human interaction, providing there are consistent caregiving experiences to foster its development (for example, see Papousek, 1981; Stern, 1985).

Affective monitoring is a fourth basic motive referring to research that indicates that there is a propensity from early infancy to monitor experience according to what is pleasurable and what is unpleasurable. From the mother's point of view, infant affective expressions guide caregiving. The reader need only think of the messages conveyed by an infant's cry, or an interested alert expression, or a bright beaming smile. From the

2. Recently I have come to realize that much of these inborn tendencies, along with their implications for fostering learning, individuality and moral development—are articulated in the principles and practices of the Montessori method of early childhood education (Montessori, M., *The Child in the Family*. Avon Books, N.Y. 1956). I am grateful to Laureen Castellano of the Denver Family Star program for enabling this realization.

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infant's point of view, a momentous development takes place during the middle of the first year. The infant begins to monitor emotional expressions of others in a new way. When contronted with a situation of uncertainty, the infant engages in what we refer to as "social referencing," searching out emotional expressions of significant others in order to resolve the uncertainty and to guide behavior accordingly. Thus if mother smiles, the infant is encouraged to approach an odd-looking toy or a stranger, and if she looks fearful or angry the infant holds back. With the development of social referencing, a new level of shared meaning is added to the infant's affective monitoring.

Cognitive assimilation is designated as a fifth basic motive. This motive is bolstered by research indicating that, from the beginning, the infant has a tendency to explore the environment, seeking what is new in order to make it familiar. The fifth motive overlaps with the first motive of activity, but it is added so that we can bring emphasis to a more directed tendency in the child to "get it right' about the environment. Many readers will recall that the phrase "cognitive assimilation" comes from Piaget (1952) who referred to it as a as a "basic fact of life." This designated motive also incorporates a line of research concerning mastery motivation (Harmon & Murrow, 1995; MacTurk & Morgan, 1995).

What we have listed as basic motives are intended to summarize research for theoretical convenience. Obviously, they do not operate separately or outside of a context. The infant-caregiver relationship experience provides the context in which the basic motives become activated, gain their meaning, and develop into more complex motivational structures.[3] These themes continue as we consider the role of emotional communication in self-development. Research indicates that the infant begins with a biological organization for experiencing and expressing emotions in patterned ways; additional consistency is achieved within the context of shared meaning built up from repeated emotional communications with caregivers. Not only is emotional communication an important part of caregiving, but the internalization of the emotional availability of the caregiver leads, evidence suggests, to the development of the child's capacity to be emotionally responsive to others in socially appropriate and consistent ways.

Another way of thinking about basic motives in context is as follows: the infant's coherence of experience results from an emotionally available caregiver who is continually responsive to an active, self-regulating, socially interactive, emotional infant—an infant who is "getting it right" in the midst of a particular developmental world that is socially expanding. In thinking this way, we have come to see how experiences during the zero-to-three age period provide a foundation for learning. Enhancing intimate caregiving experiences and secure attachment promotes exploration. Sensitive caregivers who are emotionally available, and interacting in a way that fosters self-regulation, make it possible for the infant to strengthen motivations for cognitive assimilation in a widening world. But we can say more. The above accounting of recent research also indicates a foundation for morality in the child's early experience. We are reminded from research observations that all systems of morality have "do's" alongside of "don'ts. As is mentioned in the EHS guidelines, within the experience provided by caregiving relationships, the infant gains a sense of what is expected, what feels right in the world and builds skills for social turn-taking, reciprocity and cooperation. Research provides well-studied examples of infants learning rules about reciprocity in early face-to-face interactions with mothers as well as learning rules about how to communicate, long before the development of speech. It also seems worth mentioning that such learning, or internalization of rules, often results from highly pleasurable experiences in games involving social turn-taking with caregivers.

Another positive feature of early morality, of internalizing the "do's," concerns empathy. Toward the end of the child's second year, infants come to feel distress when encountering another's expressed discomfort and to show tendencies of wanting to help or comfort (for

3. Intervention relationships can also provide a context for facilitating these aspects of development, usually by helping to improve the infant-caregiver relationship.

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example, see Zahn-Waxler & Radke-Yarrow, 1982). The emergence of empathy has a strong maturational and biological basis, and research also suggests that it is influenced by the quality of similar experiences with caregivers (for example, Zahn-Waxler, Robinson, & Emde, 1992). Another feature of early morality also becomes apparent toward the end of the second year when the tendency for "getting it right" shows itself in a new affective way. The child sometimes shows anxiety when internal standards are violated. Thus when the child is faced with a familiar object that is drastically changed, flawed or dirty, the child may evidence anxiety or distress; there may also be a tendency to repair or make it better (Kagan, 1981).

Some readers may wonder what such behaviors have to do with the topic of morality. A moment's reflection, however, can indicate the connections. A sense of reciprocity is at the center of all moral systems, usually with some version of the Golden Rule: Do unto others as you would have them do unto you. Similarly, all moral systems depend upon the internalization of standards, along with a sense of uneasiness when prototypic standards are violated.

The EHS guidelines also refer to other aspects of early morality. The guidelines point out that during early caregiving the infant's activities are nourished in such a way so as to encourage a sense of initiative and self directedness. During the toddler years, the child's internalizing of "don'ts", or prohibitions, also occurs through repeated interactions with caregivers. Research highlights that processes of social referencing and negotiation mediate what is internalized and facilitate self-control and emotional regulation. Social referencing begins toward the end of the first year and becomes increasingly important in the second year, when the toddler looks to emotional signals from others for information about prohibitions and anticipated areas of danger. Research suggests that during parental prohibitions, the child's internalization of rules does not take place in any simple way. Rather, it involves repeated experiences of back and forth exchanges, with the toddler learning strategies of negotiation in the midst of emotional communications from parents and the consequences of such strategies.

Our account of the research background for the zero-to-three development of social-emotional competence would not be complete without some mention of language development. This is the subject of Kubicek's essay in this issue. For our current purpose, suffice it to say that during the child's third year, a capacity for meaning-making through narrative discourse develops in the context of caregiving interactions. By the end of the third year, most children have some capacity for story telling about their experiences and can represent, particularly in play narratives, adventures about what they have learned and can imagine. They can also represent moral themes in narratives, thus demonstrating their knowledge of internalized rules, empathy, conflicts, discipline and dilemmas.

Conclusion: A need for guidelines, curricula and manualized interventions to improve social-emotional development, and the place of PIPE

The above discussion has highlighted our changing views about the importance of early socio-emotional development for health promotion and preventive interventions. The individuality of the infant and toddler is expressed through the activities of inborn developmental tendencies that are enabled by consistent experiences with caregivers who are emotionally available. Such experiences, more broadly, provide a basis for learning and a sense of expectant morality that includes the beginnings of rules about what to do as well as what not to do. To the extent we can promote early relationship-building and socio-emotional development in general, we can presumably encourage incentives for learning and character strengths as well as mental health. But in addition to thinking about promotion in general (i.e., about universal interventions), it is crucial for us to think about promotion of development in particular circumstances of risk. Teen-age parents who are at the cross-roads in their high school education and may be poor, for example, are at risk for a variety of problems in parenting and in relationship-building and socio-emo-

tional development with their infants. Such parents and their infants can benefit from activities that include aspects of both preventing and strengthening that are indicated in the scheme of Table A.

Interventions with teen parents and infants, as well as interventions with other targeted groups at risk (for problems of learning, morality or mental health), are now in need of guidelines. Such guidelines can indicate curricula for teaching, standardized procedures for other interventions, and even manuals for particular forms of treatment. This issue introduces PIPE, which provides a curriculum designed for use with teenage parents and infants in a high school setting. It has also been adapted for use in home visitation programs and in Early Head Start. The curriculum, focusing on relationship-building and socio-emotional development, supplements other guidelines and shows promise of application to still other caregiving settings of risk. We hope that the PIPE curriculum, along with the other contributions offered in this issue from the Program for Early Developmental Studies, can stimulate useful strategies for a range of developmental interventions.

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Developing A Sense of Self and Others

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One evening, a mother and her three-year-old son were reunited after a two-week separation. The next day, they visited our child development research laboratory. Anna, the mother, and Jon, her child, smiled and talked with each other while Jon played with a puzzle. When Jon excitedly showed his mother a piece of the puzzle, Anna responded, "A truck! How nice! Where does it go?" Jon and Anna shared positive emotions; their responses were well-attuned to each other.

The next phase of our laboratory protocol for assessing a child's knowledge of himself and his mother required Anna and Jon to view themselves in a mirror. Anna asked Jon to come to the mirror. When he did not, she pulled his arm towards the mirror and finally sat Jon in her lap. Jon burst into tears upon seeing his reflection, while Anna became increasingly less empathic and more impatient with her child. The laboratory assistant then asked Jon his name. Jon continued to cry and refused to say his or his mother's name, or perform any of the other tasks that we use to assess the child's knowledge of his own or his mother's features. Anna became increasingly irritated with Jon, finally saying, "Come on! Don't be a jerk! Tell her your name."

How can we account for the dramatic difference between the mother's and child's behavior in these two situations? Fine-grained assessments of the videotaped exchanges between mother and child showed that both members of the pair were well-attuned to each other when Jon was focused on more cognitive tasks. Yet there were both subtle and dramatic missteps in sensitivity to each other when mother and child were placed in front of the mirror together. Why were Jon and Anna able to interact smoothly when they were solving a puzzle task but seem less sensitively attuned when in front of a mirror?

Clues to the riddle emerged from Anna and Jon's next visit to the laboratory, one week later. This visit occurred after a week without any significant separations between mother and child. This time, Jon smiled at the mirror image of himself and his mother and happily answered "Jon" when asked his name. When asked his mother's name, he smiled and warmly said, "Mommy," in a possessive tone. In turn, his mother was sensitive and responsive to her child. In this observation, both mother and child were well-attuned to each other throughout their visit, with the interaction bathed in a mutual positive regard and Jon revealing a robust sense of self.

Jon and Anna were among many mothers and children who participated in one of a series of related studies conducted in our laboratory. These studies were designed to investigate the relation between infant/mother interactions and the child's developing sense of self and others. Our understanding of how best to account for discrepancies such as those we saw in Jon and Anna's behavior during the first visit, as well as the change from the first to the second visit, rests on a distinction between two ways of knowing: procedural and declarative knowledge. In the earliest years of life, a child acquires both types of knowledge within his or her relationships with important caregivers. The knowledge thus gained shapes the child's expectations about all future human relationships and also powerfully influences the adult's way of being with his or her own young children.

Procedural and declarative knowledge and the emerging sense of self

Infants' and toddlers' emerging sense of self may be best understood in terms of the development of two types of knowledge. Borrowing from concepts originally elaborated in cognitive science (Squire & Cohen, 1984), developmental researchers have used the distinction between procedural and declarative knowledge to investigate how infants create a sense of themselves and their world (Clyman, 1992; Emde, Biringen, Clyman & Oppenheim, 1991).

Procedural knowledge refers to those actions which people perform but cannot generally describe. Procedural knowledge, demonstrated by performance, encompasses the sequence of skills by which tasks are accomplished. A person's knowledge of how to "act on" the world is unconscious, rather than consciously remembered. One demonstrates procedural knowledge of how to walk or ski or drive by walking or skiing or driving— not by recalling facts about, or experiences

with these skills. Procedural knowledge is not symbolic and does not stand for anything else. It represents the act of doing and not the conscious reflection about the doing. Knowledge that is procedural becomes so through repeated practice. Moreover, knowledge that is not initially procedural can become so with practice. The conscious thought needed to master the components of a new tennis serve, for example, can become routinized after much practice so that one can perform the new serve without thinking consciously about any of the components. In fact, after the new serve is mastered, conscious attention to any one of the components may result in decrements in performance.

Babies acquire procedural knowledge through the non-verbal interactive routines that they and their mothers (or other primary caregivers) construct together. Procedural knowledge of self-with-other (Stern, 1989) concerns the routines constructed around the body — for example, feeding/eating, bathing, and diaper changes. Other aspects of an infant's procedural knowledge concern those experiences of exploring the self's body independently of the mother. The procedural knowledge of experiencing the feeling of one hand touching and being touched by the other is independent of the mother and becomes routinized with practice. The emotions experienced while exploring the self 's body and being with another person are also a part of procedural knowledge (Clyman, 1992). The interactions through which procedural knowledge is acquired become routinized with practice and cannot be described consciously by either the infant (obviously) or (less obviously) the mother. Consider, for example, the game of making and blowing bubbles with one's mouth that parents commonly play with three- or four-month-old babies. A parent familiar with this routine could easily perform it with his or her baby on request but could probably not describe either the exact timing between turn-taking or the number of bubbles blown in each turn.

Declarative knowledge, in contrast to procedural knowledge, is information that can be learned and recalled. Many aspects of declarative knowledge are consciously known; information is stored as memories of facts or events. Declarative knowledge is symbolic (it always refers to something else) and can be represented either in language or sensory images. For example, declarative knowledge about the self includes one's own name, verbal knowledge of one's gender, and the visual knowledge of one's face. While it is possible to translate procedural programs into declarative knowledge, procedural knowledge refers to the actual performance by which something is accomplished and not to the symbol of the performance. The act of playing the violin, for example, is different than translating sensory impressions into a description of the performance.

Clyman (1992) suggests that the capacity to acquire procedural knowledge is present by birth, but that the

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declarative knowledge system does not emerge until two years and is not fully functional until around the age of five. Expressing similar ideas in different language, Piaget (1952) described the first two years of life as the sensorimotor period, during which infants experience the world concretely, rather than abstractly, and learn to coordinate perceptions and actions. Piaget described the pre-operational period, beginning at around two years, as the time in which infants begin to think without acting, or can construct an internal representation of the world independently of the actions that previously defined self and other.

The distinction between procedural and declarative knowledge is one way to understand the interactions observed in our laboratory between Anna and Jon. Being together while Jon completed a puzzle involved procedural knowledge. This knowledge was not affected by the two-week separation of mother and child. Jon and Anna easily fell back into a routine of being together while involved in an activity. Jon knew how to act as the child of this particular mother. Anna knew how to act as the mother of this particular child. This ability to be together was probably not something either thought about consciously or could explain. Their procedural routine of being together was smoothly integrated into mother and child's performance of a cognitive task.

The two-week separation did, however, influence Jon and Anna's procedural and declarative knowledge when they were placed in front of a mirror. Mother and son no longer interacted smoothly when they were placed in a situation which emphasized the more self-

conscious aspects of being together. Being in front of a mirror disrupted aspects of both procedural and declarative knowledge of being together through, we suspect, the mother's heightened self-consciousness. Her self-consciousness disrupted her procedural knowledge, much as becoming self-conscious of the skills needed to ride a bicycle, for example, disrupts the procedural knowledge of how to do so. As a result, Anna jerked her child towards the mirror. This action surprised and upset Jon, as it violated his independence. A negative cycle of interactions was started. When placed in front of a mirror and asked questions about himself and his mother, Jon cried. Jon's refusal to state his name demonstrated a disruption of his declarative knowledge of himself. Anna, normally a sensitive mother, became so irritated with Jon's refusal that she called her son "a jerk." We hypothesize that during the first day after a two-week separation some aspects of the procedural knowledge of being a mother and a child together were lost to both Anna and Jon when they were in the self-conscious situation of sitting in front of a mirror. Furthermore, procedural mis-steps in their interactions (Jon not responding to a spoken request, Anna's physical coercion) interfered with mother and son's access to some of the more positive aspects of their declarative knowledge about self and other.

When seen one week later, Jon smiled at the mirror image of himself and his mother and happily answered "Jon" when asked his name. When asked his mother's name, he smiled and warmly said, "Mommy," in a possessive tone. The mother also was extremely sensitive and responsive to her child. We hypothesize that during the week between the two laboratory visits, the procedural knowledge of being-with-the-other was repaired for this mother and son; as a result, access to declarative knowledge was no longer limited, and the more positive aspects of knowledge about self and other surfaced once again.

We can hypothesize further that three years of generally positive experiences with each other made it possible for Anna and Jon's relationship to repair itself in the course of a week, without outside intervention. More specifically, Jon's sense of self seemed restored by the second laboratory visit; the maladaptive aspects of the interactions between mother and child observed on the first post-separation visit had been easily righted. But many mothers and babies are unlikely, on their own, to develop routines and patterns of interaction that will lead to adaptive self-development in children. This is particularly likely when the experiences of mothers, as children, did not provide the procedural (unconscious) knowledge of how to be a partner in well-attuned and sensitive interactions.

The Partners in Parenting Education curriculum (PIPE) is one of the first manualized curricula that focuses explicitly on infant emotional and social development. (See Butterfield, this issue.) It is designed to teach parents how to replace more maladaptive patterns of parent/child interaction with patterns that lead to adaptive self-development in children. In order to best illustrate how the PIPE parenting curriculum has been designed to foster adaptive parent/child interaction, we will next describe four salient developmental stages of infancy and toddlerhood, including different lessons from the PIPE curriculum.

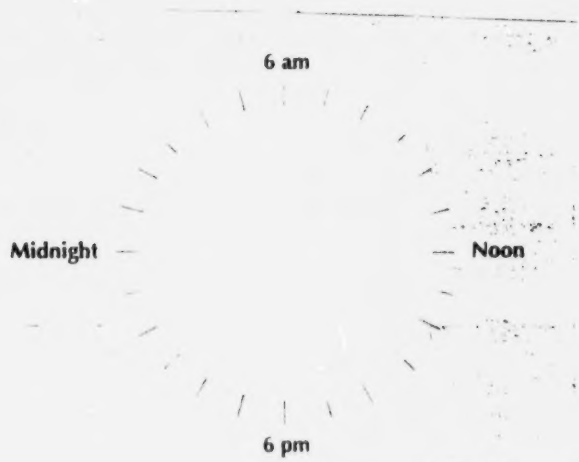
Normal self-development and the PIPE Curriculum

In order to better understand the infant's developing sense of self and other, we will focus our description around the four bio-behavioral shifts described by Emde and his co-workers (Emde, Gaensbauer & Harmon, 1976). These shifts reflect dramatic re-organizations of infants' experiences of self and other. Pervasive and enduring changes across a number of domains of development during these important periods include: (1) shifts in infants' internal cognitive, emotional, and physical capacities; and (2) shifts in infants' ability to relate to the environment. Specific examples of each biobehavioral shift will be described below, along with illustrations from the PIPE curriculum that are designed to address the emerging capabilities of infants at each of these shifts.

Infant capacities that emerge at each biobehavioral shift are foci for intervention in the PIPE curriculum. The curriculum is not age-based, but instead can be used flexibly across a number of ages. Each unit in the curriculum, therefore, addresses a particular component of infant/mother interactions that can be applied across a number of different ages. For example, the unit on regulation describes how respect for the baby and self is an important factor in setting limits. PIPE describes behavior regulation as a form of respect. In these lessons, parents build a toolbox which will give them different ideas for discipline and behavior management at four different ages. (This unit will be described in greater detail below.) It is possible only to describe a very small sub-sample of lessons that may particularly apply at each biobehavioral shift in this paper, of course, and we refer the reader to the PIPE curriculum itself for a complete list of the issues addressed (Butterfield, Dolezal, & Knox, 1995; Dolezal, Butterfield, & Grimshaw, 1994: Butterfield, Pagano, & Dolezal, 1996).

Two-month shift

The first biobehavioral shift occurs at two months, when parents report that the newborn becomes less "doll-like" and more human. The infant now spends more time awake and alert. These changes represents a shift in a child's procedural knowledge about one of the most basic aspects of a child's self-regulation—the biological regulation of sleep/wakefulness cycles. The first volume of the PIPE curriculum, *"Listen, listen, listen"* begins by units that teach about the different states of aware-



Color in the times when baby is . . .
Sleeping..... Blue
Drinking milk or eating solid food.... Green
Bathing.....Turquoise
Diaper change/dressing..... Pink
Playing with someone..... Orange
Exercising.....Yellow

ness of newborns (from deep sleep, for example, through the states of quiet/alert to crying). Mothers are provided exercises in which they map their babies' and their own daily rhythms and patterns of sleep/wakefulness. In one exercise, mothers note the times that babies are in sleep, wakefulness and crying states over three days. From these data, mothers determine their baby's pattern of sleep/wakefulness in the clock shown above.

Mothers are also given suggestions how to change their babies' state. Mothers learn first to regulate their newborns' state by, for example, learning to swaddle or calm a restless baby. The PIPE curriculum defines regulation as steadying or balancing extremes. A consistent pattern of regulation provides the infant with routines that lead to clear expectations.

This biobehavioral shift in attention and alertness at two months leads to greater interaction with the world as infants begin to explore their bodies and smile socially. As occurs with each reorganization, the two-month shift leads to both qualitative and quantitative differences in children's abilities. Infants begin to smile more (a quantitative difference) and to smile socially (a qualitative difference). The introduction of a social smile as well as the associated increase in eye-to-eye contact and social vocalization leads to changes in the infant/caregiver interaction: Infants and mothers now use responsive smiling and vocalization in their interactions.

The PIPE curriculum contains units designed to aid mothers in entering into a dialogue with their infants. When "talking" with infants, mothers learn to find non-verbal channels of communication. One unit of the curriculum contains descriptions and exercises on how babies "talk" with their feelings. Babies show their feelings by what Tronick (1987) labels as "small talk," including facial expressions, body language and sound. In this unit, mothers are asked to describe small talk during common routines, such as feeding, diapering or dressing, bedtime and during play.

Seven to nine month shift

Another profound shift in the child occurs at seven to nine months. At this age, most children begin to crawl, and, as a consequence, the child's place in the world begins to change. Not only does crawling change a person's perspective on the world, it also changes the child-caregiver relationship. A child's new mobility introduces new opportunities to discover and challenge parental rules.

In many approaches to child rearing, parents are taught to "set limits" on their infants at about the age their infants start to crawl. Instead of explaining these physical and mental changes in children as requiring anything new from parents, the PIPE curriculum frames this change as a continuation of the co-regulation they learned when the child was younger. Mothers learn to steady or balance emotional extremes and to redirect their infant's behavior. Parenting tools which focus on regulation are taught at four different ages. At each age, regulation involves different strategies. The focal points of discussion for parents of 9-16-month-old infants include the principles of: (1) ignoring behavior the mother doesn't like; (2) diverting baby through rhythm, fun and interest; (3) addressing prohibition situations by removing the baby or removing the forbidden object rather than by scolding; (4) helping the mother to find non-verbal as well as verbal ways to communicate limits ; and (5) helping the mother to solve problems more effectively and to be less angry with her child by learning to ask "why?" when the baby is out of control or seems to be misbehaving.

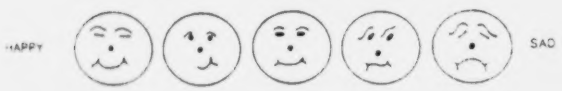
Around seven to nine months of age, children begin to demonstrate expectations of themselves and others. Infants' self-development includes expectations about their own bodies. Beginning at this age, infants are fascinated by stickers placed on easily observed parts of their bodies. This activity can hold their attention for long periods of time. Children's expectations of others are demonstrated in various ways. Children demonstrate their procedural understanding of routines with others by their emotional reactions to violations of routines. The game of peek-a-boo, for example, plays upon the child's delighted anticipation of appearance and reappearance. Violation of expectations can also generate negative emotions when, for example, strangers come

An Emotional Puzzle

Name _____

Find the twelve basic emotions

E MAH SOAUFQBDFHJRLFOI
WLFE HEBURCOEGPRSNCZN
KAQA YMGAMKRANGERXOAC
UTYOJCETSBCWFCIEANKR
IWBJ QFASLNORZONLATGS
LARI LXPSQMLRIRMPRELU
ODTL SDHEOINAEPDINNUR
AIEN EIFNARFWODSRDTLP
RSDQ ASGYSXADYPODWMCR
YGZI PTKHELCFHTTMUESI
IUWB CRMSADNESSAICNGS
HSMA HEOLPOCYWQBDZTWE
XTRG FSJCLINZGMORHGEC
RZOU XSFTCRINTERESTNM
BYOP PACDNEHJPSLKRSIO



The Twelve Basic Emotions

Surprise	Boredom	Distress
Interest	Shyness	Disgust
Joy	Sadness	Anger
Contentment	Shame	Fear

too close to the child or when parents leave. The dawn of specific attachment to parents reflects a more complex understanding of parents. As Piaget (1952) has shown us, children begin their understanding of means-ends relationships and begin to understand that objects can be found even if out of sight. At this age, a child's understanding of parents begins to include a preliminary understanding that parents exist even although they are not seen. And stranger anxiety signals an understanding of the bodily and facial features of the mother, coupled with the ability to compare the mother's features with the stranger's features.

Another emerging infant ability is that of shared meaning with caregivers. Throughout the curriculum, PIPE emphasizes infants' emotional development and the way it affects characteristics of shared meaning. Since the PIPE curriculum is designed for adolescent mothers, word games are used to distinguish the twelve basic emotions, as shown above. Then, infants' uses of emotions are described. Emotion is one of the first things infants can share with and communicate to others. The curriculum describes emotions, both positive and negative, as the language of infancy. Sharing positive emotions is described as a way to keep people close and build self-esteem. When talking about sharing negative emotions, PIPE distinguishes between sharing and acknowledging another person's negative emotion. Sharing the baby's negative emotion is not helpful to the child, while showing the baby that his or her negative emotion is understood and accepted can be quite helpful. Parental acceptance and understanding regulate emotion through supporting and stabilizing the baby.

An underlying theme of the PIPE curriculum is that the way parents share emotions with babies becomes a pattern. We suggest that the pattern mothers and infants construct constitutes their procedural knowledge of each other. Additionally, the patterns of sharing emotions with others serve as a bedrock for children's developing procedural emotional sense of themselves and others.

Twelve-months shift

A third biobehavioral reorganization occurs at approximately 12 months. At this age, many toddlers begin to walk and express themselves in one-word utterances (Biringen et al, 1995). Children begin to use emotions instrumentally, for example, by pouting and smiling in order to get their own way. When children are faced with ambiguous situations and don't know how they should react, toddlers look to their parents in order to know what emotion they should be feeling.

At this age, children also show specific attachments to their parents. When frightened, infants crawl or walk to parents and obtain comfort only from those persons. Thus, another layer of sharing in the PIPE curriculum is attachment, or interdependence. Attachment is defined as a feeling of interdependence that requires commitment. Mothers learn that attachment provides feelings of safety, stability and confidence for the baby, and enables sharing of emotions and a feeling of belonging. The curriculum is careful to distinguish between interdependence and dependence, an important distinction for many adolescent mothers. Thus, interdependence is defined as a deep need to feel committed and connected with another while maintaining one's own identity. A videotape is provided for this lesson, and mothers are asked to identify attachment behaviors that they observe in the videotape. Mothers are also given a list of attachment behaviors and asked to check those that apply to their infant.

Eighteen to twenty-one month shift

Another reorganization emerges at 18 to 21 months, and many children can now verbally express relations among words, as the one-word phase begins to transform to 2 to 3 word utterances. The PIPE curriculum includes sections on language and focuses most fully on the pragmatics of language during the first year of life. Different lessons focus on language learning starting at birth. In the first year of life, the prerequisites of language acquisition are described: Shared emotion, turn taking and imitation are important for building language skills. Different milestones in language acquisition are detailed in this unit. Suggestions are made to

Attachment/Separation Needs Come In Waves

~ During the first year, babies' demands for closeness or autonomy come in waves. Babies change from needing protection and guidance to feeling confident and independent.

~ Attachment periods are wonderful periods of closeness and sharing. You feel needed and effective in regulating your baby's emotions.

~ Attachment waves are also demanding. They take lots of your time and energy.

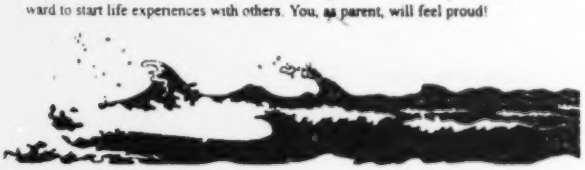
~ If attachment is strong during the first three years, if you as parent are available and able to understand your baby's emotions and respond in the right way, you will always be a "home base." You will become the memory image which is carried forward in your baby's head. You are their first Love ... their inner strength.

~ Separation periods give parents feelings of pride and accomplishment.

~ Then, babies seem balanced, happy, and independent. They seem happy to be in the care of someone else part time. These are easy periods emotionally.

~ But, separation takes vigilance and guidance. Babies may be over-confident, driven to practice new skills, into trouble. They are willful, not wanting to stop a task or change a pattern. Demanding new things, wanting to try what you are doing. You will need to be the model and set the limits for your baby's enthusiasm.

~ By three years of age, most babies have a pattern in their head of a loving relationship and also a pattern of the rules of relationship. This is what they will take forward to start life experiences with others. You, as parent, will feel proud!



mothers about how best to encourage language. These include talking simply and using repetition, describing objects and things, listening to your child and taking his or her questions seriously.

At this age, children also begin to feel autonomous and independent of their parents. Children begin to say "no!" and may begin to have temper tantrums. The emergence of an autonomous self is reflected in their ability to recognize the self. Self-recognition is demonstrated with the "rouge task." In this task, a dot of rouge is applied to the infant's nose. After an interval of time, infants are placed in front of the mirror. Self-recognition is shown when infants notice the rouge in the mirror and then touch their nose. The accomplishments of creating more and more complex senses of self seems to be universal. Toddlers raised in nomadic tribes in the Middle East and who have never seen a mirror are capable of self-recognition when seeing themselves in a mirror for the first time (Priel and deSchoenen, 1986). There also appears to be no difference in toddlers' ability to self-recognize as a function of social class or maltreatment (Schneider-Rosen & Cicchetti, 1984, 1991).

While this development sequence seems to be universal within western cultures, children's emotional reactions about the self may be more sensitive to variations in the environment. Research has shown, for example, that maltreated children and children of poverty and middle classes are equally likely to exhibit self-recognition. Yet middle-class children are more likely to exhibit positive emotions when viewing themselves in the mirror compared to a poverty sample. Throughout the PIPE curriculum, a primary focus is on the development of shared positive emotions, and the different ways to regulate infants' negative emotions.

In general, children's emotional reactions to the self appear to be related to cognitive advances. Michael Lewis and his colleagues (Lewis, et al., 1989) reported that embarrassment was likely to be displayed only when children were able to self-recognize. They suggested that children's self-recognition is a necessary ability for self-conscious emotions such as pride, shame and guilt. Each of these emotions requires children to be able to take themselves as an object. Once they can look at themselves as others might see them, they are able to have feelings about themselves.

Around the ages of eighteen to twenty-one months, children's autonomy is built upon the attachment formed earlier. Independence is formed from the interdependence of attachment. The PIPE curriculum addresses mother's concerns about independence in its second volume. A chapter in the unit on independence explores how love is letting go and how respect is another layer of love. Feelings of separateness allow people to feel independent and self-directed, with a sense of personal accomplishment and mastery. Respect strengthens love. Parents' respect for babies' sense of mastery and independence helps infants increase their joy and pride in themselves.

Babies have very short periods of independence, however, so babies' needs for attachment and separation come in waves. An infant's need for attachment, for example, will be followed by an equally strong need for separation from and independence of mother. The fluctuating demands of a child in this period can be quite confusing. PIPE tries to prepare parents to ride these waves (see figure).

In an earlier section, a distinction was made between procedural and declarative knowledge. Around 18 to 24 months of age that declarative knowledge develops. The hallmark of declarative knowledge is the ability to develop schemas that internally represent objects and actions. Language is one powerful mechanism that our species employs to represent things. At this age, infants begin to be able to verbally label themselves. The sense of self includes one's possessions, as any mother or father of a two-year-old can attest after hearing countless assertions of "Mine!" Finally, it is not until about 3 years of age that children are able to verbally understand gender as they label themselves as a "girl" or a "boy."

In general, children's understanding of self and mother are acquired in the same order (Pipp, Fischer & Jennings, 1987). Just as toddlers recognize themselves

before being able to name the self, which, in turn, is followed by verbally knowing one's own gender, toddlers recognize others in the same development sequence: recognition of mother, naming mother, and being able to describe her gender. The sequence of these abilities appear to be strongly canalized, or biologically programmed, so that in general children's knowledge of themselves and others are acquired in the same developmental sequence in the first three years of life. This is true, in part, because acquisition of new abilities (e.g., language) must be acquired before applied to understanding self and other.

Individual differences in declarative knowledge about the self have been found to be related to individual differences in toddlers' attachment to their mother. As the example of Anna and Jon showed, development of self-knowledge can be more influenced by perturbations in the attachment relationship than are other infant capacities, such as the ability to complete a puzzle.

Three different patterns of infants' attachment to their parents have been described by Mary Ainsworth and her colleagues (1978). One category includes infants who are securely attached to their parents, while the others reflect different types of insecure attachment: insecure-avoidant and insecure-resistant. Caregivers of *securely* attached infants and toddlers are sensitive and responsive to them. Securely attached toddlers use their mother as a secure base from which to explore the world, and demonstrate a greater willingness and ability to explore than insecurely attached toddlers. Securely attached children seek their attachment figures out when they are distressed, and these people are able to comfort them. Most securely attached one-year-old infants derive comfort from physical contact. As children advance both cognitively and linguistically, they derive comfort from the attachment figures in many additional ways — talking, smiling, offering toys or initiating a game. In our initial work, we found that securely attached infants demonstrated more complex declarative knowledge of self than either type of insecurely attached infants and that this difference increased from one to three years of age (Pipp, Easterbrooks & Harmon, 1992). Infants who were securely attached, for example, were more likely to be able to recognize themselves in the mirror and know their name than were infants who were insecurely attached.

There are also differences in how infants learn about visual features of their face and their mother's face. Because a mirror is needed to see one's own face but not another's face, the architecture of the body supports greater knowledge of other people's features than one's own features. Securely attached infants easily fit the pattern provided by nature. They show more complex knowledge of their mother's features than of their own.

Later, we found differences in infants' knowledge of self and mother between the types of measured patterns of attachment (Pipp, Easterbrooks, Brown & Harmon, 1995). In contrast to securely attached infants, *avoidantly* attached infants do not seek out their caregivers when distressed after a brief separation and may actively move away or ignore them. Avoidantly attached infants' behavior contrasts with their physiological reactions to the return of the caregiver: the dramatic increase in heart rate shown by these avoidantly attached infants at their caregivers' approach has been interpreted to indicate stress. The avoidance of mother also appears to affect knowledge of self and mother. Compared to securely attached infants, avoidantly attached infants have a significantly less complex knowledge of their mothers. In fact, avoidantly attached infants demonstrate the lowest levels of mother knowledge of any other attachment status. Since caregivers of avoidantly attached infants chronically reject their infants' attachment behavior, we speculated that these infants to avoid their mother out of anxiety and are therefore less knowledgeable about her features.

If a caregiver has been inconsistently sensitive or responsive, a child is likely to show resistant attachment. Resistantly attached children seek out their attachment figure when distressed, but take little comfort from them and show signs that they cannot use this person as a secure base for exploration. Toddlers who have resistant attachment typically show overt and intensive distress when separated from their caregivers, and are difficult to calm upon reunion with their mother. Such toddlers may hit, squirm, or continue crying for relatively long periods of time after reunion. Not surprisingly, the resistant coping strategy to attachment-related events is related to the complexity of a child's knowledge of self and mother. Resistantly attached infants attend much more to mother than to self. Resistantly attached infants' knowledge of self was significantly lower than securely attached infants, while no significant differences were found with respect to knowledge of mother's features.

Thus, infants' acquisition of declarative knowledge of the "me" and "you" looked different in avoidantly and resistantly attached toddlers. Avoidance reduced infants' featural knowledge of the "you" (mother) whereas resistant attachment reduced infants' knowledge of the "me" (self). We speculate that avoidantly attached infants learn to attend more to self than other, because other people are a source of anxiety to them. In contrast, resistantly attached infants develop a strategy for carefully monitoring their caregivers' behavior, and this preoccupation leads to a strategy of attending more to other than self.

Summary

Individual differences in the procedural knowledge of being-with-other in the first several years of life lead to differences in the acquisition of knowledge of self and other. Jon and Anna were only one of the many mothers and children who participated in our research. Even in

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this dyad, in which the mother was normally sensitive, we could discern perturbations in declarative and procedural knowledge. Jon and Anna got their relationship back on track without intervention. However, parents with fewer parenting skills may not be able to do this without assistance.

The PIPE curriculum is designed to strengthen adolescents' skills as mothers. Using exercises and illustrations, the curriculum is designed to address specific issues common to mothers and infants. The PIPE curriculum focuses on social and emotional development in infants, and describes both changes in infants' development and specific parenting skills needed as infants change and grow. Specific lessons and interventions from the PIPE curriculum were used to illustrate common themes and issues at each of the four biobehavioral shifts in infant development. The first three shifts focus on the development of procedural knowledge of self and mother. PIPE's emphasis is on creating a strong base of procedural knowledge through supporting positive interactions and co-regulation between infant and mother. At the deepest level, therefore, the PIPE curriculum is a guide for the development of sound procedural knowledge between infant and mother. The fourth biobehavioral shift presages the onset of declarative knowledge as infants begin to use language and build a stable sense of self.

Positive interactions promote the formation of secure attachments, and our research demonstrates that secure attachment fosters an optimal sense of self at the declarative level. Both a secure attachment and a positive sense of self provide a strong base for further development and as protective factors throughout development. We concluded that the PIPE curriculum is a promising tool for supporting the basic procedural knowledge of the mother and infant that can lead to a firm and positive declarative knowledge about self and other.

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Helping young children become competent communicators:

The role of relationships

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Young children learn a great deal about themselves and the world around them through their communicative exchanges with people, especially their parents and other important caregivers. When caregivers know how to "read" and respond appropriately and consistently to their child's communications, they help the child meet her own needs. Over time, the child learns to read and respond appropriately to her caregiver's communicative behaviors as well. Participating in these kinds of mutually regulated exchanges seems to reinforce effective patterns of communication in both caregivers and children. Each success is likely to motivate the child or caregiver to initiate another exchange. This, in turn, guarantees that caregiver and child will have increased opportunities to learn from each other and strengthen their relationship.

It is not surprising that children's competence in communicating is closely linked with competence in other areas of development. In fact, a young child's ability to communicate effectively has a strong positive influence on her social, emotional, and cognitive development. In order to help at-risk parents create the kind of caregiving environment that encourages and reinforces early communication, the Partners in Parenting Education (PIPE) curriculum emphasizes the importance of sharing positive emotions and teaches parents to read and respond appropriately to their baby's emotion-based communicative behaviors from the start. This article will review current knowledge about the nature of children's early emotion-based exchanges with their caregivers and how these exchanges provide a context for the development of language. Next, a brief review of the research literature which focuses on the effects of the language learning environment on early language competence is presented. Finally, the article highlights specific aspects of the PIPE curriculum that are designed to encourage language development. It should be noted here that this curriculum is (currently) intended for dyads where a child may be at risk for developing a communicative disorder due to experiential/environmental factors, such as caregiver inattention or an impoverished childrearing environment, rather than biological factors, such as specific genetic or congenital conditions (see Prizant, Wetherby, & Roberts, 1993). Finally, several suggestions for future research are proposed.

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Early emotion-based exchanges

Although most children do not utter their first words until sometime during the second year, the development of communication and language begins in early infancy. One of the most important research findings of the past 20 years is the extent to which the human infant is an active participant in her interactions with others from the earliest days of life (Lewis & Rosenblum, 1974; Stern, 1977). During the first year, she often communicates with her caregivers through a varied repertoire of nonlanguage, emotion-based signals including gaze, facial expressions, body postures, gestures, cries, and other vocalizations. Sensitive caregivers attend to these signals and respond, in turn, to help regulate the young child's level of emotional arousal and meet her other needs (often leading to expressions of pleasure or interest from the child). Within the context of consistent and sensitive caregiving, the child can soon learn to read her caregiver's emotion-based signals and to modify her own behavior so as to respond in more appropriate ways.

Researchers have used the terms *synchronous*, *reciprocal*, and *coordinated* to describe the communicative "dance" that develops between a sensitive caregiver and a responsive infant. But researchers have also discovered that these terms tend to apply only to the "best" exchanges between caregivers and children (Tronick & Gianino, 1986). Even among well-functioning caregiver/child pairs, everyday communication is likely to involve many missed cues and misunderstandings. Fortunately, adults and even very young children typically work together to repair their communicative errors, so that their exchanges can continue. Consider, for example, the following sequence, videotaped during an evening home visit with a family (Kubicek, 1992):

The family had finished dinner, and the father and toddler had gone into the living room, as they often did, to play with some puzzles. The father sat down in a large chair, and his son

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sat on the floor a few feet in front of him. The child initiated an exchange with an apparent request to father to place a bunny puzzle piece in the puzzle board, a request that the father initially misunderstood. The turn exchanges that follow illustrate the kind of additional "interactive work" and cooperation that is required of both caregiver and child to maintain their exchange and eventually resolve their misunderstanding. Although this child was 15 months old at the time, he had relatively few words and relied heavily on nonlanguage behaviors to communicate.

The child vocalizes to his father ("eh") as he bounces the bunny puzzle piece in the air. Father points to the bunny space in the puzzle board and sings, "hippity hoppity hippity hoppity hippity hoppity back in his spot?" Next, the child holds the bunny piece out to Father, who responds, "put him back in his spot?" The child frowns and repeats his initial vocalization ("eh"), but this time in a more fretful, insistent tone, and bounces the bunny piece in the air. Father repeats, "hippity hoppity hippity hoppity." At this point, the child interrupts his father by getting up and walking over to his father's chair and placing the bunny piece on the arm of the chair. Father now seems to understand and replies, "want me to do it?" The child smiles and immediately points to the space in the puzzle board. Father bounces the bunny piece in the air as he sings, "hippity hoppity hippity hoppity hippity hoppity back in his spot!" Both smile and break into laughter.

This vignette helps to highlight another important finding regarding parent-child interactions, namely, that even in well-functioning pairs, interactions frequently involve the expression of negative as well as positive emotions. What is important for healthy development (and is illustrated here) is that both parent and child learn to regulate their emotions in response to one another and express them in adaptive ways (Sameroff & Emde, 1989). For example, in this vignette, the child expresses some anger/frustration as he attempts for the third time to communicate what he wants his father to do. He frowns and vocalizes in a more fretful and insistent tone as he bounces the bunny puzzle piece in the air. Despite his distress, the child copes well and continues to engage his father, an adaptive response which was likely motivated by earlier successes in similar situations. For his part, the father does not become angry or impatient with the child but instead, calmly makes another attempt to understand what his son wants. Both are eventually rewarded with success and share a hearty laugh before going on to their next game.

As this vignette shows, when parents and their children are able to regulate their emotions adaptively and negotiate needed repairs successfully, these early, emotion-based exchanges can provide the foundation for further developments in communication. Through repeated experience in these day-to-day interactions with sensitive caregivers, the child begins to learn important lessons about how communication works. Specifically, she learns about turn-taking and social reciprocity, she begins to develop expectations about

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behavioral regularities and communicative routines/sequences, and she learns to repair errors or misunderstandings in communicative exchanges. Of particular significance for the development of language, she also learns that her signals have meaning for others, an understanding that is essential for using words to communicate.

The language-learning environment: The importance of caregiver input

There is a great deal of variability among young children in the age at which they reach different language milestones; some of the variation may be linked to differences in their language learning environments. However, most children begin to comprehend language around nine months of age. Typically, a child begins to associate a name with the person or thing to which the name refers. That is, children will begin to look at favorite people or objects when someone names them —"Mommy," "Big Bird," or "bottle." Children may begin to produce language as early as a month or two later. They begin to use single words to name or request people or things — "Daddy," "juice," or simply "more."

Clearly, language comprehension and production represent two of the most significant cognitive achievements of early childhood. Nevertheless, as Bornstein

(1995) reminds us, the motivation to acquire language is social. It is rooted in interaction and nurtured there. Consequently, it is likely that the emotional context of a young child's communicative exchanges (as well as the frequency and kind of speech she regularly hears) will affect her language development.

Numerous studies have explored the relation between aspects of the language learning environment and language outcome. Some most relevant findings about comprehension and production are worth summarizing.

Comprehension

Maternal sensitivity, adaptability, and nurturant physical contact during the first six months have been found to correlate positively with children's language comprehension at two and three years (Bee et al., 1982; Olson, Bates, & Bayles,1984). Moreover, frequency of verbal contact during mother-child interactions at age two, as well as frequency of maternal attempts to direct their toddler's attention to objects or events by describing or demonstrating how they work, pointing to them, or naming them, were positively associated with comprehension at two years of age as well (Olson et al., 1984; Tamis-Le Monda & Bornstein, 1990).

Production

How adults talk to young children influences children's own speech. The features of maternal speech listed below are among those most frequently cited in the research literature as promoting language production in early childhood and may be thought of as important sources contributing to variation among children.

Frequency. A number of studies have reported a substantial positive relation between overall amount of maternal speech and the size of toddlers' productive vocabularies (Huttenlocher et al., 1990; Tomasello, Mannle, & Kruger, 1986). Huttenlocher and colleagues also found that toddlers learned those words that they heard frequently earlier than those words that they heard less often.

Semantic contingency. Semantic contingency, which involves an immediate matching of adult speech to the topic or content of the child's previous utterance, has also been found to correlate with language development (e.g., Bates et al., 1982; Rice, 1989; Smolak & Weinraub, 1983). Adults may "match" their speech to a child in various ways. For example, a caregiver may simply repeat what the child has just said. Alternatively, the caregiver may expand the child's utterance by incorporating it in an expanded comment or question. If a toddler says "dog," the caregiver might reply, "That's a nice dog" or "Do you like the dog?"

Joint focus of attention. Following a child's lead and commenting on those aspects of the environment that already have her attention can facilitate vocabulary growth (Dunham & Dunham, 1992; Tomasello & Farrar, 1986). Interestingly, frequent attempts by an adult to redirect a child's behavior or attention to other things can have the opposite effect.

Simple communicative style. Adopting a style that is simpler than a normal adult-adult style, both in the number and choice of words and in the level of syntactic complexity, helps young children learn to talk. Furrow, Nelson, and Benedict (1979) found that the greater the number of words, verbs, pronouns, or contractions per utterance used by a mother in talking to her 18-month-old, the less advancement in language her child was likely to show nine months later.

Encouraging language development through PIPE

The PIPE curriculum incorporates many research-based suggestions for encouraging early language and communication. Throughout, the curriculum (which was designed originally for adolescent mothers but is being adapted for use in other settings) emphasizes the central role parents play in promoting early language development. Parents are repeatedly (although gently) reminded how important it is for them to be attentive and responsive to their child's sounds, words, and expressions of emotion. They are encouraged to talk and sing to their babies and toddlers early and often.

The interactive play sessions that are an essential part of the PIPE approach (see Butterfield, this issue) are designed to help parents translate principles into practice. Consider, for example, the following sequence from an interactive play session between an adolescent mother and her baby, supervised by a PIPE instructor:

> An adolescent mother shakes a rattle over her baby but continues staring blankly out the window. Her daughter ignores the rattle and looks instead at her mother. The instructor notices this and reminds the mother that her face is likely to be more interesting to her baby than a toy. She suggests that the mother try playing a cooing or mouthing game with the baby (a number are described on PIPE "activity cards" that are available to mothers). The mother turns the baby towards her and begins to coo. The baby begins to imitate the mother, and both smile. When the mother is later asked to comment on her evaluation sheet about what she had learned that week, she replies, "I learned that my baby likes me better than a rattle. She can already play and take turns, and I can show her how."

PIPE's emphasis on encouraging parents to talk to their very young children reflects research which has shown that adolescent mothers (Osofsky, Hann, & Peebles, 1993), mothers from low socioeconomic backgrounds (Hoff-Ginsburg, 1991), and depressed mothers (Breznitz & Sherman, 1987) typically do not talk much to their young children. When they do, they are not likely to use the strategies that have been found to encourage language development. PIPE provides developmental information, offers exercises in reflection and observation that are related to communication, and sug-

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gests specific strategies or activities that parents can use to encourage not only language development but also self-esteem and autonomy.

Information: "Learning Language," a chapter in the PIPE curriculum, reviews the normal developmental course for communication and language during the first two years in a concise and understandable style. The review begins by describing the newborn's noises and cries and ends with the toddler's multi-word utterances. It highlights the fact that even the newborn's noises and cries are meaningful and can tell a parent a lot about how her baby is feeling. Parents are advised to respond quickly to their baby's early cries as a way of establishing their first "communicative link" and reinforcing trust. The "Learning Language" chapter (as well as other parts of the curriculum) emphasizes the wide range of variation to be expected among children as they develop during the first three years. For example, while some children may have a vocabulary of more than 20 different words at 10 months of age, others may not begin to speak at all until 14 months of age. Some children may combine words into simple phrases like "more juice" and "sit down" by 15 months, while others may not begin to combine words this way until their second birthday. Such individual differences seem to be even more pronounced in language and communication than in other areas of development (Fenson et al., 1994). It is especially important to emphasize the uniqueness of every child's development in a curriculum designed for adolescent parents, who tend to compare and compete with each other through their children.

Reflection and observation: As discussed earlier, the infant is an active participant in her interactions and has much "to say" from the earliest days of life. PIPE helps parents to understand that communication starts at birth by teaching them about infant states and emotional signals and giving them practice in "listening" to their babies. Specific exercises draw a parent's attention to the child's sounds and expressions, and the parent typically responds to the child through facial expressions, voice, and touch. Parenting instructors frequently ask, "What does the baby seem to be saying?" By observing and answering these kinds of questions, parents come to see their babies as individuals who actively affect their own care. PIPE exercises also encourage parents to focus on their own communicative behavior. For example, an exercise might ask a mother, "What clues besides your words do you give your baby to help her understand what you're saying?" These exercises are designed to promote positive, reciprocal interaction patterns and the repair of interactive errors and misunderstandings.

Specific strategies and activities: PIPE offers concrete, age-appropriate suggestions (which incorporate findings from current research) that encourage not only language development, but self-esteem and autonomy as well. For example, parents are advised that by imitating their six-month-old's sounds, they will let the child know that her sounds have interest and meaning for others. The baby will also learn to get attention through sound and will repeat those sounds her parent responds to. The curriculum suggests that parents respond to their one-year-old by naming the word or near-word she uses when pointing to an item, to help her understand that words get her what she wants. For example, in response to "baba," a parent might say, "Bottle? Here's your bottle." When a child responds correctly to a parent's direction or question (for example, "Sit down" or "Where's the bear?"), parents are urged to show "love" through words, smiles, and hugs. Parents of 15-month-olds are encouraged to continue to use repetition and to respond to their child with the correct word rather than "baby talk." They are also reminded to give their child clear choices by asking questions such as "Do you want juice or milk?" and "Which toy shall we play with now?"

Robert Maust

PIPE recognizes that it is healthy for parents and children to be able to express both positive and negative emotions in their interactions with each other. However, the goal is to learn to regulate emotions and express them in adaptive ways. To deal with young children's potentially difficult feelings or problematic language, parents are advised to model and reinforce what they like to hear their child say and ignore language they do not like, rather than scold their child for language errors. Several PIPE chapters focus on the use of angry words by both caregiver and child and the expression of negative emotions such as anger, fear, and sadness. Exercises present parents with potentially difficult or

troublesome situations and the opportunity to act out possible solutions. They are directed to use clear and simple language that is relevant to toddlers and are given practice at responding with good, clear answers to their children's questions and oppositional demands.

An adolescent mother was asked to talk about the PIPE interactive sessions to a parent group at school and showed her ability to use specific suggestions and articulate the benefits to both parent and child of doing so. She told the group:

I used to pick out a toy that I liked and try to force Kevin to play with it. We would fight and scream at each other the whole (parenting) class time. Then he would go to Mrs. Knox (the child care provider/parenting instructor) and put his head on her shoulder and suck his thumb. I used to say, "I ain't coming back, Kevin, cause you are mean." Then I learned to let Kevin choose the toys. We get out several things. He helps me choose. Then he picks the toy we will start to play with and I get to lead the way we play. We don't fuss together now. We have lots of fun and he cries for me when I leave. I like that.

Practice, practice, practice

As other contributors to this issue observe (see Pipp-Siegel & Pressman and Butterfield, this issue) PIPE is designed to give very young children and their mothers many opportunities to develop special routines of interaction and being with each other. These lead to what researchers call "procedural" or skill-based knowledge of what a positive parent-child relationship feels like. Any kind of procedural knowledge — from touching one hand with another to driving to skiing — involves practice. Thus the PIPE curriculum follows demonstrations of ways to "read" and respond appropriately to a baby with many sessions in which a parent can practice new skills under sensitive supervision. During a baby's first year, for example, turn-taking and imitation games are introduced at three months and practiced thereafter. One mother describes her experience this way:

When I go to change Selma, she sticks this ole flat foot in my face and I kiss it. Then she sticks up the other foot and I kiss it. We learned this stupid game from PIPE. Now we always have to play it before I change her. She starts it. She plays this with only me, only me.

As this example demonstrates, through participating in these kinds of games, the child learns important lessons about turn-taking and social reciprocity, and she also begins to develop expectations about behavioral regularities and communicative routines. Moreover, as the mother's comment suggests, this little game that she alone shares with her baby makes her feel that she is special to her child.

In addition to helping parents and young children develop special communicative routines around daily caregiving, PIPE encourages reading story books and singing nursery rhymes and songs as regular activities to encourage both interaction and language. During supervised interactive sessions with their children, parents have ample opportunities to return to these skill-building tasks. Another mother commented on this part of her PIPE experience in the following way:

Mark used to just turn the pages (of books)fast as he could go, so I would shut the book and say, "No. . . no more, you're not interested in hearing me read." Then I learned that he wants to see what's next in the pictures, he'd rather look than listen to the words. Now he points, and I name the thing he points to. He goes slower, and I teach him about lots. We "read" all kinds of books now. . . point and say, point and say. . . even my school books."

The impact of PIPE on children's language and communicative development

A central theme of this essay is that communication between parent and child begins during the earliest days of the child's life and is rooted in their social interactions. An ongoing relationship with a caregiver who responds to the child in a sensitive and consistent manner is expected to enhance the child's language and communicative development. Does participation in PIPE in fact enable parents to modify their behavior in ways that have a positive impact on their children's language and communicative development?

Changes in maternal perception and behavior are observed during the PIPE program, especially when parents stay in class for a year or more or have a home visitor for an extended period of time. However, it is important to realize that interventions of this kind often compete, and may even conflict, with attitudes parents have developed over time and information they have learned from their own childhood and adolescent experiences. Whether or not PIPE affects a permanent change in parental behavior is a question for future research. There is certainly reason to expect that a baby who is treated as an interactive partner from the start will be able to build on this experience and remain an active participant in her interactions with others.

Questions about the impact of PIPE are directly related to the questions we are addressing in laboratory research with children from community samples. For example, since we recognize that both caregiver and child influence the language learning environment, our research with toddlers is exploring potential child effects on parental input. The Program for Early Developmental Studies is currently assessing the relation between individual differences in temperament and emotionality and language development in a group of 80 earlier- and later-talking toddlers who are being followed longitudinally from 15 to 30 months. As part of this study, we hope to assess how differences in toddler temperament and emotionality may affect the amount and kind of linguistic input directed to them.

In addition to exploring various factors which may

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contribute to differences in language development among typically developing children, we hope to assess what happens to these differences over time. For example, do children who are behind their peers at an early age eventually catch up, or do they continue to lag behind? What are the consequences of these early differences for school success? Can an intervention like PIPE affect a lasting change for children who are at risk for developing a communicative disorder due to experiential/environmental factors?

Another area for research involves the adaptation of PIPE and other intervention approaches for work with culturally diverse families whose language, values, priorities, and child-rearing practices often differ from those of "mainstream" America (Vincent et al., 1990). PIPE is designed to promote mutually-regulated parent-child interactions that enhance the child's language and communication by encouraging parental responsivity, especially through language. How might the curriculum be adapted for use with traditional Asian families for whom the emphasis in early interactions may be on physical, not verbal, contact? How might PIPE's emphasis on emotion-based communication be adapted for a culture in which children are expected to show their parents obedience and respect and are not expected to express their feelings or their likes and dislikes? Working with traditional American Indian families is likely to present related but somewhat different challenges. In many tribes, it is the grandparents rather than the parents who often take on the primary parenting role. Traditionally, children are taught by example rather than by direct instruction. When PIPE strategies appear to run counter to families' traditional child-rearing practices, creative adaptations will be required so that the cirriculum does not alienate the families it is meant to help.

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Supporting Emotion Regulation and Emotional Availability through Home Visitation

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Regulation of emotion, recent research tells us, is a critical process in early development — one that babies and their caregivers must accomplish **together**. The mutual, interdependent process of emotion regulation begins when a baby's signal — crying, for example — arouses an emotional response from the caregiver (Dix, 1991). If a mother is emotionally available — that is, sensitive and open to the child's emotional state (Biringen & Robinson, 1991) — she will be able soothe her baby when distressed or stimulate her baby when bored or lethargic. Over time, external regulation by the caregiver becomes less necessary, as infants develop a greater capacity for emotional self-regulation.

Ideally, the parent-infant bond develops within a network of caring and regulating relationships. Grandmothers, spouses, and siblings all play a role in supporting the mother in providing consistent, responsive care to her baby. But many mothers are alone with their babies, with little access to a network of caring and regulating caring relationships. Other mothers have experienced emotionally harsh childhoods. In such instances, supportive home visitation services can help isolated, depressed, or otherwise vulnerable mothers in their own emotion regulation and increase their emotional availability to their babies.

This article will describe how Home Visitation 2000, a research demonstration project serving low-income women during their pregnancies and the first two years of their children's lives, has made emotionally sensitive caregiving a focus of its intervention approach. We have done so by adapting the Partners in Parenting Education (PIPE) curriculum (see Butterfield, this issue) to the home visiting context. After describing the mutual regulatory process between mother and baby, and how this develops over time, we will discuss the role of home visitors in supporting emotion regulation. Case vignettes illustrate the ways home visitors adapt elements of the PIPE curriculum to the circumstances of individual mothers and babies.

The mutual regulatory process

What does it mean for regulatory systems in development to be mutual and interdependent processes? Infants' signals, such as crying or cooing, arouse emotional responses from the caregiver (Dix, 1991). Thus infant signals influence what parents attend to, their motivation to respond, and their readiness to act, as well as the communicative aspects of their own responses. In order to remain available to the child, the caregiver must manage his or her own emotional responses to the baby's signals —often a challenge. The caregiver's ability to help a baby regulate emotion is essential. Although infants have the biological capacity for self-regulation of many physiological and behavioral systems at birth, the development of emotional self-regulation requires external regulation by a caregiver. Such "delegation" of regulatory functions to the caregiver diminishes with development, as more infant regulatory functions become relatively autonomous.

How do caregivers regulate babies' emotions? Consider an infant who has become disorganized by too much distress or excitement. His communications — fussing, whining, or full-blown crying — are likely to be aversive and disruptive for caregivers and others. In such situations, caregivers typically "down-regulate" by soothing the child and providing some time away from environmental stimulation. Alternatively, an infant may lack emotional stimulation and appear lethargic, apathetic, withdrawn, or even depressed. (Extreme examples have been observed among infants living in orphanages without primary caregivers [Spitz, 1945], infants separated from their mothers for months at a time [Spitz, 1946], and infants whose mothers are clinically depressed [Tronick, Cohen, & Shea, 1986]). In situations where the infant appears lethargic, competent, emotionally healthy caregivers typically "up-regulate" with interactive stimulation; they do this by providing nourishment, playing, teaching, and encouraging active exploration. Depressed mothers, however, may fail to recognize the flatness of their infant's emotional expression, leaving the infant without regulatory support.

Within the early caregiving relationship, each partner gets immediate feedback when he or she is succeeding in the mutual regulatory process. As the baby is soothed or responds with an alert smile, the caregiver knows that she/he accomplished the regulatory goal. The infant, in turn, experiences further soothing or pleasure as the caregiver responds to his/her initial success with

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continued regulatory behaviors. This feedback loop can be an important opportunity for intervention. For example, a home visitor can structure situations where positive, rewarding interactions between mother and baby occur. The inherent pleasure and success that both mother and child will experience when interactions are in synchrony increase the desire of each partner to be in their relationship. The home visitor promotes self-efficacy for the mother and her child.

Successful emotion regulation between mother and baby may be only temporary, however, since the forward thrust of the infant's development means that the relationship between baby and caregiver will be a constantly changing one. Over the course of the first postnatal year, the infant's emotions become more differentiated within the context of relationship experiences. The baby's signals of surprise, anger, fear, sadness, and disgust take on particular meanings and expectations for response between the baby and each important caregiver. During the second year of life, the child begins to experience the emotions of pride and shame. Through repeated experiences with emotionally available caregivers, the child also learns skills of self-control, emotional regulation and negotiation, empathy, and caring for and helping others. For home visitors or others involved in supporting parents, the richness of children's emotional development in the first two years offers repeated opportunities to re-engage or enhance attunement to the child by highlighting the toddler's new skills and emotional reactions.

Developmental changes may bring with them times of poor attunement between parent and child, even if interactions have previously been going smoothly. For example, when the four-to-six-month-old baby turns outward to engage others socially during feedings, patterns of breastfeeding may be disrupted. When the infant's response to strangers or at separation from mother is marked by heightened fear and distress between 7-9 months; and when toddlers enter a more aggressive phase of behavior around 15-18 months, established regulation patterns may be disrupted. New responses, adapted to the new developments, are required from caregivers (See Pipp-Siegel and Pressman, this issue). For a time, parents may experience distress and confusion about their child and their relationship. Home visitors (and others) can support parents and children as they reach a new level of attunement that is adapted to the child's new developmental capacities.

How home visitors support emotion regulation

Home Visitation 2000 is designed to evaluate the unique contributions that paraprofessional and nurse home visitors can make in serving low-income women during their pregnancies and the first two years of their children's lives. Home visiting programs staffed by paraprofessionals and by nurses are currently serving 490 women and their first-born children in the Denver, Colorado metropolitan area. An additional 250 women are participating in the research as a comparison group; their children receive regular developmental screening and referral to community services as necessary.

Home Visitation 2000 is the third randomized trial of home visitation undertaken by David Olds and his colleagues (Olds & Kitzman, 1990); the first two studies were conducted in Elmira, New York and Memphis, Tennessee. The Denver project is designed to permit evaluation of the program's influence on four aspects of mothers' and children's lives during pregnancy and in the two years after birth: 1) women's health-related behaviors during pregnancy; 2) qualities of infant caregiving; 3) women's personal development (e.g., planning future pregnancies, educational achievements, participation in the work force, and welfare dependence); and 4) children's health and development.

Starting in the prenatal period, Home Visitation 2000 aims to enhance parents' early empathic involvement with their infants, thus promoting children's healthy development and interrupting cycles of family interaction that are likely to lead to adverse outcomes. The Home Visitation 2000 program model is designed to bring about enhanced emotion regulation and maternal sensitivity both directly, through its teaching curriculum, and indirectly, through the helping relationship within which all services are delivered.

Home Visitation 2000 has integrated into its intervention strategies the Partners in Parenting Education curriculum (PIPE) (Dolezol & Butterfield, 1994). Although PIPE is a teaching curriculum that was designed for use with teen parents in the high school classroom, it has been successfully adapted to the home visiting context. Beginning with the basic premise that parents must be able to read their baby's signals accurately in order to provide sensitive caregiving, the curriculum offers parents 1) information about emotional communication and emotional regulation and 2) supervised opportunities to practice activities that are designed to lead to pleasurable, mutually rewarding well-regulated interactions between mother and baby.

In Home Visitation 2000's adaptation of PIPE, each home visit is organized around concepts that engage the mother's empathy for her child's changing emotional experience. Typically, the home visitor will introduce a topic by inviting the mother to consider her own experiences with other adults (for example, exploring with the mother when it is that we feel trust and security with another person). This approach both creates empathic engagement and points the way for mothers to contemplate their own emotional regulation process. Videotapes especially developed for use with the PIPE curriculum and handouts support the presentation of each topic to the parents.

A second strategy to support mothers' greater success in emotional and behavioral regulation is the home

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visitor's use of supervised interactive guidance to engage mothers directly in practicing emotion regulation skills. Home visitors help move troubled mother/baby pairs into more positive interactive experiences by underscoring for mother the baby's pleasure —however brief—during an interaction. Thus when they have any success in completing interactive activities with their infants, mothers receive immediate positive feedback from both their infants and the home visitor. Pleasure is extended, and the mother's feeling of efficacy as a caregiver is promoted. The home visitor's presence provides a "scaffold" for mothers, a safe context in which she may learn and enhance skills in regulating her infant. When appropriate, the home visitor may suggest alternative ways of doing an activity to enhance the mutual pleasure of mother and infant. For mothers for whom the presence of the visitor may be inhibiting, the visitor may suggest and even model activities, but support the mother's choice to practice at a later time. The visitor's sensitivity in reading mothers' signals is key to the success of this guided interaction approach.

Integrating PIPE into Home Visitation 2000

PIPE builds on program elements used in the previous trials of nurse home visitation by Olds and colleagues (see Olds & Kitzman, in press). For example, it builds on the Nursing Center Assessment Satellite Training (NCAST) Keys to CaregivinG materials, which provide information about reading of infant cues (Barnard, 1979), the first step in the regulation process. PIPE goes beyond the NCAST approach by using instruction and direct experience to teach parents not only how to read infant cues but also how to regulate infants' emotional states. Materials and activities in the PIPE curriculum encourage an appreciation that regulation involves both partners (a baby is unlikely to be well-regulated if the mother is not); encourage anticipatory strategies in parents that are biased toward positive experiences for the baby (e.g., using an interesting toy to distract attention from a prohibited one); and encourage respect for the uniqueness of each baby's reactive style and regulatory needs. PIPE, in short, gives mothers direct experience and instruction in specific areas of emotion regulation.

Home Visitation 2000 trained its home visitors in the PIPE techniques and concepts during three quarterly, half-day training sessions which permitted discussion of materials and any challenges encountered. Initially, the paraprofessional home visitors were wary of "teaching" interaction to mothers. They needed additional support to be able to introduce PIPE activities and concepts to mothers naturally, in ways that made sense to them (see Hiatt, Sampson, & Baird, in press). After approximately 9 months of working with the approach, both paraprofessional and nurse home visitors attended a two-day intensive training seminar to reinforce and extend their competence with the PIPE materials. Based on this experience in adapting the curriculum to the home visiting context, the Read Your Baby organization is now preparing a supplemental PIPE manual, which highlights instructional strategies appropriate for the home visiting situation.

The relationship between home visitor and mother

PIPE instruction and supervised experiences offers a direct path to enhanced emotional regulation between mothers and babies. But patterns of interaction between mothers and infants can also be altered indirectly, through the entire relationship that the home visitor builds with the mother (Robinson, Emde, & Korfmacher, in press; see also Heinicke, 1991; Erickson, Korfmacher, & Egeland, 1992; Olds & Kitzman, 1993). Indeed, the relationship is crucial. Although a teaching curriculum (such as NCAST or PIPE) that promotes sensitive caregiving can be very beneficial, instruction alone will not suffice to improve many parent/infant relationships, since lack of information or guidance is not the only factor preventing mothers from sensitive, empathic caregiving. Many mothers have endured emotionally harsh childhoods. Years of neglect, indifference, unresponsive caregiving, or even abuse and trauma can create deep patterns of mistrust and unmet dependency needs. Mothers with these vulnerabilities may not be able to follow—or accept—direct guidance about caregiving; they may not even be able to focus substantial attention on their child's needs. We believe, however, that if information and guidance can be provided to mothers in the context of an empathic, caring relationship with an important, trusted person (such as the home visitor), then it is more likely to be accepted.

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The home-visiting relationship is also expected to affect the parent-child relationship by offering a model to mothers of care and support. The home visitor's respectful, positive, steady support challenges the view a mother may have of herself as undeserving of care or the cynicism she may have developed about trustworthiness in relationships. By maintaining a healthy supportive alliance, the home visitor shows the parent that positive, caring relationships are possible. The mother begins to see herself as someone who deserves support and attention, and by extension, sees her child as deserving the same. Emerging data from the Memphis home visiting trial, upon which Home Visitation 2000 is based, suggest that mothers' perception of empathy from her home visitor is related to empathic beliefs she has towards her child (Korfmacher, Kitzman, & Olds, in press). In this way, the helping relationship becomes a "corrective" experience for some parents who have experienced obstacles to empathic caring toward their infant. Because the mother is the "gatekeeper" into the parent-child relationship, the benefits of her experiences with the home visitor extend to the child.

We also propose that empathy in the home visiting relationship produces benefits in the caregiver's relationships with others, what we described earlier as "the network of caring relationships." Empathy not only communicates a human sense of feeling for and being with another, but it also leads to a sense of useful, shared understanding and meaning. Emde (1990) has theorized that empathy, when it is experienced repeatedly with another, serves to enhance one's feeling of confidence and efficacy in relation to others. In a helping relationship with a home visitor, a mother can experience more positive expectations, not only about the development of her infant, but also about the benefits of social relationships with others. Building on these positive expectations, the program encourages the development of a network of caring and empathic relationships that can provide an expanding, enduring circle of support for child and caregiver.

The process of relationship building can be seen in the following vignette.

When the home visitor met Alice, she discovered an isolated, lonely, and depressed woman. Five years before, when Alice had left her life of prostitution and drug abuse, she had also relinquished all her friends. The father of her child was a stranger whom she had met in a bar. Although he moved in with Alice when she told him she was pregnant, the relationship was unsupportive.

Alice bonded immediately with her home visitor, seeing her as a cure for her loneliness. Alice engaged eagerly in all the PIPE activities with her daughter, with whom she has a warm, empathic bond. In addition, Alice and her home visitor worked together on relationship-building skills, stress management, and depression. After a year, Alice found the courage to leave the unsatisfactory relationship with her baby's father and to re-establish ties with her parents. Soon after, she sought out several support groups as well. It seemed that her experience of closeness in the relationship with the home visitor had helped move her toward building a network of supportive relationships. Alice was ready to make a change in her life and could use the home visitor to do so.

In Home Visitation 2000, home visitors receive extensive training and supervision in the creation and maintenance of supportive, helping relationships. Since mothers participate in the program for more than two years, the program design allows for a gradually increasing level of trust and comfort. Although a standard protocol for the assessment of family functioning and the delivery of information is used as part of the intervention, home visitors are given the flexibility to tailor service delivery to families based upon the family's individual needs. For example, home visitors can modify the protocol for more fragile or ambivalent parents, emphasizing aspects of the intervention that will be seen as more concretely supportive and less threatening (for example, provision of bus tokens or diapers, or connection to community services) before more personally challenging work will begin. By providing a supportive experience, helping mothers to fulfill their own basic emotional needs, home visitors assist these wary mothers to shift their attention to the needs of their child. Once mothers can do this, the PIPE curriculum, as noted earlier, is available to give home visitors guidance and structure in promoting mothers' sensitivity and emotional availability in a positive, non-threatening way.

The vignette that follows illustrates an unusual and creative adaptation of the PIPE approach with a family where the outcome of intervention is still uncertain. The story of June and her baby illustrates how PIPE can work at two levels—first, at the level of supporting mothers in basic skills of communicating with their

infants, and second, at the level of creating awareness of the importance of consistency and trust in relationships.

Shortly after her initial meeting with her nurse home visitor, June disappeared from the Home Visitation 2000 program. Her visitor finally located her in a county jail, four months after her baby daughter had been born and just before June was scheduled to begin serving a nine-year sentence in state prison. June was struggling to feel like a mother. She feared that her daughter would reject her. They had been together for only four days after the baby's birth and would have visits together at the prison only every other month.

Addressing June's concerns through telephone calls and the mail, the visitor used PIPE curriculum materials to teach June about infant cues and development and how to engage her daughter in play. The visitor also began bi-weekly home visits to the baby's guardian, June's maternal Aunt Mary, to further consistency in the baby's care. The visitor found Mary's home to be safe and loving. Continuing contact with June, the visitor helped her make an audiotape of herself reading nursery rhymes and singing lullabies to her baby. The tape was given to Aunt Mary, who played the tape every night for two months. After the next mother-daughter prison visit, Mary reported to the home visitor that the baby seemed notably responsive to June.

June's relationship with her own mother is still confused. Raised in an alcoholic, abusive home, June knows that she wants a better environment for her daughter than her mother was able to provide for her. However, June's mother continues to badger her about her decision to leave the baby with Mary. In discussing with her visitor who should have contact with the baby, "trust" was a word that June struggled to understand. The visitor guided June through the "Love Is Layers of Sharing" unit from the PIPE curriculum, helping her to identify the characteristics of a trustworthy person. While June can now name these traits, she tends to attribute them to people whom she idealizes but whom others would consider untrustworthy — for example, her mother and her baby's father, who has been uninvolved since his daughter's birth. The visitor hopes that additional activities related to trust in the PIPE curriculum — for example, an exercise that will ask June to identify how her mother and the baby's father demonstrate trustworthiness — will gently encourage June to examine her relationships. For now, her daughter is with Aunt Mary, who is providing a stable, emotionally responsive home.

The stories of June and Alice illustrate the use of the PIPE approach in the context of home visiting with isolated mothers who had difficulties with trust and relationship-building. The home visitors' emotional availability and their support of emotion regulation through a flexible approach were designed to encourage the emotional development of both mother and baby. It is a basic assumption of Home Visitation 2000 that such interventions can lead to continuing successful relationship experiences. Such relationship-building intervention experiences can result in the development of trust, a sense of mastery, and increasing social skills in mothers and children alike. Such experiences also play a role in preventing problems of regulation, communication, and conduct in both the child and in the caregiving relationships within which the child continues to develop.

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Videotapes:

Partners in Parenting Education (PIPE) Curriculum. Each one of the three units in this series includes a curriculum manual (see Butterfield, this issue), a videotape with discussion guide, and activity cards. Developed by Read Your Baby for Partners in Parenting Education, Denver, CO. Distributed by Child Development Media, Inc., 5632 Van Nuys Boulevard, Suite 286, Van Nuys, CA 91401. Tel: 800-405-8942. Fax: 818-994-0153.

PIPE materials were developed specifically for use with adolescent parents or adults who themselves have had less than optimal parenting examples. The curriculum addresses the emotional development of infant and parent and teaches emotional communication, parent/infant interaction, and skills for emotion regulation. Each unit of the curriculum includes: 1) a manual with 8 to 10 weeks of lesson plans, conceptual material, teaching strategies, overheads, posters, games, and questionnaires; 2) a videotape with a discussion guide; and 3) activity cards designed to support parent-infant interaction.

Listen, Listen, Listen. ($180). This unit focuses on communication skills and the baby as an individual. Listening — a key ingredient in effective parenting — is a skill that must be developed. Learning to listen and respond appropriately forms a foundation for the relationship between parent and child. The unit addresses babies' states of awareness and the cues for caregiving they provide; rhythmicity in early development; how babies "talk" with their feelings; responding to babies' engagement and disengagement cues; learning how to follow a baby's lead to extend and expand play; helping babies learn language; and the power of rhythm and music for emotional regulation.

Love Is Layers of Sharing. ($180). This unit focuses on relationship building, defining love as a relationship that deepens through mutual sharing. A baby's emotional and social development are determined through relationships, and a baby's first relationship sets the pattern for all future relationships. Learning to use positive parenting techniques early can enhance the development of love and pleasure in parenting. The unit addresses individual differences in temperament; trust; sharing emotions; communicating love through touch; interdependence; respect; regulation; tolerance; resilience; and emotional refueling.

Playing Is Learning. ($180). This unit focuses on shared learning and mastery skills, showing babies as born eager to learn and play as a pathway to learning. Play leads to new experiences, new competencies, shared interests, and sharing positive emotions with others. Parents and caregivers promote learning and develop closeness by being partners in children's play and helping children feel mastery and pride. The unit addresses curiosity and mastery, shared positive emotions, developmental milestones, teaching styles, reciprocal play, stimulating the senses, building communications skills through play, pretend play as problem solving, and the joys of reading.

Publications

New Visions for the Developmental Assessment of Infants and Young Children (1996) - Samuel J. Meisels and Emily Fenichel, editors (ZERO TO THREE, 734 15th Street, N.W., Suite 1000, Washington, D.C. 20005) $35 plus $4 shipping and handling.

Assessing the development of an infant or young child is a tremendous responsibility. *New Visions for the Developmental Assessment of Infants and Young Children* argues that developmental assessment must be a process designed to deepen understanding of a child's skills and abilities, and of the caregiving and learning environments most likely to help a child make fullest use of his or her developmental potential. This volume includes: the principles and guidelines for developmental assessment developed by ZERO TO THREE's multidisciplinary work group on assessment; parent perspectives on the assessment process and how to achieve needed changes in policy and practice; guidelines for assessing young children whose sociocultural background is unfamiliar to the assessor; approaches to building alliances with families; specific assessment approaches and tools; and discussions of the impact of public policies on assessment and intervention. Contributors to *New Visions* include Isaura Barrera, Carol Berman, T. Berry Brazelton, Diane Bricker, Joanna Erikson, Stanley I. Greenspan, Laurence Hirshberg, Brian McNulty, Samuel J. Meisels, Lucy Jane Miller, Barbara Popper, Barry Prizant, Cordelia Robinson, Susan Rocco, Carole Samango-Sprouse, Marilyn Segal, Evelyn Shaw, Noreen Webber, Amy Wetherby, Serena Wieder, and G. Gordon Williamson.

Inside the Brain: Revolutionary Discoveries of How the Mind Works (1996) - Ronald Kotulak (Andrews and McMeel, 4520 Main Street, Kansas City, MO 64111) $21.95 (quantity discounts available for educational use).

"The first three years of a child's life are critically important for brain development. Unfortunately, for a growing number of children, the period from birth to age three has become a mental wasteland that can sustain only the gnarled roots of violent behavior. Society needs to focus on this period if it is to do something about the increasing rates of violent and criminal acts." Thus Pulitzer Prize-winning science writer Ronald Kotulak introduces his book, a synthesis of interviews with more

than 300 neuroscientists who are using the tools of modern genetics, imaging devices, molecular biology, and genetic engineering to "pry open the 'black box'" of the brain. Kotulak divides his book into three sections: "How the brain gets built," "How the brain gets damaged," and "How the brain fixes itself." Observing that "the real message of the latest advances (in neuroscience) is often hidden under a mountain of scientific data," Kotulak tends to uses metaphor or simile to reach "all parents and teachers," to whom the book is dedicated. For example:

- ". . . (T)he outside world is . . . the brain's real food . . . The brain gobbles up its external environment . . . through its sensory system . . . Then the digested world is reassembled in the form of trillions of connections between brain cells . . ."
- "Long thought to be a clean slate to which information could be added at any time, the brain is now seen as a super-sponge that is most absorbent from birth to about the age of twelve . . . It is . . . especially during the first three years that the foundations for thinking, language, vision, attitudes, aptitudes, and other characteristics are laid down."
- ". . . Synaptic connections between brain cells . . . act as telephone lines that enable (brain) cells to talk to each other for the purposes of creating memory and intellectual prowess."
- "Sounds, sights, smells, touch — like little carpenters — all can quickly change the architecture of the brain, and sometimes they can turn into vandals."

Attachment Theory: Social, Developmental, and Clinical Perspectives (1995)—Susan Goldberg, Roy Muir, and John Kerr, editors (The Analytic Press, Inc., 101 West Street, Hillsdale, NJ 07642) $49.95.

Originating in a 1993 conference held in Toronto to honor psychiatrist John Bowlby, this volume is designed to place attachment theory in its cultural and historical context, evaluate its relation to clinical and research endeavors, and identify new directions in attachment work. Like the conference, this volume identifies a "new era" in attachment theory and research, in which clinicians discover (or rediscover) attachment theory and developmental researchers are discovering the practical applications of attachment theory and research. A number of contributors consider the implications of attachment theory for psychoanalytic theories of development and psychopathology (Inge Bretherton, Morris Eagle, Klaus Grossmann, Jeremy Homes, and Mary Main). A second group of contributors is concerned with the processes that underlie formation of early attachments (Jay Belsky, Peter Fonagy, Myron Hofer, and Stephen Suomi). Dante Cicchetti and Sheree Toth use a developmental framework to discuss research on child maltreatment and attachment. Patricia Crittenden considers the relations between quality of attachment and aspects of psychopathology, integrating evolutionary, learning, Piagetian, Vygotskyan, and information processing theories, theory regarding affect, and nonlinear probability theory with attachment theory. Mary Main reviews three phases in the development of the field of attachment (Bowlby's ethological-evolutionary theory; Ainsworth's discoveries of organized patterns of attachment in infancy; and the present phase of investigating individual differences in attachment at the level of representation and discovery of a new attachment category).

Caregiving, Cultural, and Cognitive Perspectives on Secure-Base Behavior and Working Models: New Growing Points of Attachment Theory and Research (1995)—Everett Waters, Brian E. Vaughn, German Posada, and Kiyomi Kondo-Ikemura, editors (Child Development Monograph #244, The University of Chicago Press, Journals Division, 5720 S. Woodlawn Avenue, Chicago, IL 60637) $18.50.

The 1985 Society for Research in Child Development *Monograph*, "Growing Points in Attachment Theory and Research," addressed the secure-base phenomenon, patterns of attachment, and the relevance of these concepts throughout the lifespan. This new collection of essays revisits some of the issues raised a decade ago, including the meaning and implications of attachments in cultures outside the United States and Western Europe and individual variations in adaptation. Contributors to this volume also consider the links between attachment and other intimate relationships, including the relation between adults' attachment history and both the quality of their relationship with an intimate partner and the organization of secure-base behavior that their child shows in the home. An edited transcript of an interview with Mary Ainsworth reviews the shaping of attachment theory and research. Christoph Heinicke and Inge Bretherton offer comments on new findings, conceptualizations, and measurement tools.

Enhancing Early Childhood Programs: Burdens and Opportunities (1996)—Douglas Besharov, editor (Child Welfare League of America, c/o CSSC, P.O. Box 7816, 300 Raritan Center Parkway, Edison, NJ 08818-7816) $16.95.

Co-sponsored by the Child Welfare League of America, the American Enterprise Institute for Public Policy Research, and the National Association for the Education of Young Children, this volume is an outgrowth of a 1991-92 bi-partisan seminar dedicated to developing more effective responses to the problems facing disadvantaged children and families. The book was published in the spring of 1996, when the editor believed the possibility of new federal welfare legislation was growing "dimmer each day." However, the editor observes that the books "major lessons will be equally applicable under any federal legislative scheme that might be enacted in the near future." Several contributors remark on the paucity of research findings available to policy makers. Discussing "two-generation" programs that recognize the multigenerational, multidi-

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mensional aspect of family poverty and set out to attack it on several fronts simultaneously, Jean Layzer and Robert St. Pierre observe: "The dilemma faced by program designers is that the move to a two-generation strategy has proceeded rapidly, in a variety of different directions, without convincing evidence about which direction is most effective." Similarly, in an essay on Head Start and welfare reform, former Administration on Children, Youth, and Families Commissioner Wade Horn notes: "The effects of mandating training or work outside the home for mothers of young children are simply unknown. Coordination of Head Start and the JOBS program would provide an excellent opportunity to investigate this important issue."

A History of the Family, Volumes 1 and 2 (1996) — Andre Burguiere, Christiane Klapisch-Zuber, Martine Segalen, and Francoise Zonabend, editors (Harvard University Press, 79 Garden Street, Cambridge, MA 02138) $39.95 for both volumes.

Translated from the French, these volumes are designed to "highlight both what study of the family can contribute to our knowledge of a given society and what each period of history can add to our understanding of the general problems of the family." The 30 contributors to the two volumes blend historical and anthropological perspectives to explore how the family and its norms have developed over time and to compare different cultural choices and historical paths. The first volume deals with ancient societies, Europe in the Dark Ages and medieval times, and classical periods of non-European civilizations. The second volume studies "the shock of modernity" in the religious, political, economic and social spheres, as well as the confrontation between European and other cultures. A number of infancy-related themes reappear in discussions of church and state control over families, families during the industrial revolution, socialist families, and families in Scandinavia, France, and the United States. These include norms for physical care, theories of upbringing, and periodic sudden increases in rates of infant abandonment in stressful times.

Conference Call:

October, 1996

October 21: Child Development Resources will sponsor a day-long training workshop on "Bringing an Infant Mental Health Perspective to Early Intervention," in Williamsburg, Virginia. The program will explore how infant mental health strategies can support the relationship between infants and parents. Contact CDR Institute, PO Box 280, Norge VA, 23127-0280, tel: (757) 566-3300, for reservation information.

October 25–26: The Texas/Gulf Coast Early Intervention Conference, sponsored by Families for Early Autism Treatment (FEAT - Houston, Inc.), will focus on "Behavioral Education Strategies for Children with Autism/PDD," in Houston, Texas. Session leaders include, Bridget Taylor, Edward C. Fenske, Gina Green, Jack Scott and Michael O'Dell, with a keynote presentation to be led by O. Ivar Lovaas of the UCLA Young Autism Project. Contact FEAT - Houston, Inc., PO Box 2516, Bellaire, TX, 77402-2516, tel: (713) 359-2878, for more information.

October 26: Mills College will present a day-long event on the theme,"The Meaning and Significance of Play: Multiple Perspectives," in Oakland, California. Psychoanalyst and former director of the Yale Child Study Center, Albert Solnit, will make the keynote address. For details and reservations, contact Mills College, 5000 MacArthur Boulevard, Oakland, CA 94613, tel: (510) 430-2019.

November, 1996

November 8–10: "Perinatal Care - Recent Advances and Future Challenges," is the theme for the 1996 National Perinatal Association's 20th Anniversary Clinical Conference and Exposition in Nashville, Tennessee. Contact Contemporary Forums Conference Management at (510) 828-7100, or the National Perinatal Association, 3500 E. Fletcher Ave., Suite 209, Tampa, FL 33613 tel: (813) 971-1008 for more information.

November 13–15: The Department of Developmental Services will sponsor a conference in Los Angeles, California with the theme, "Partners in Prevention IV: Reaching for Success," as part of California's Early Start Program for professionals, parents, service providers, and public and private policy makers. Featured speakers include, Jeree Pawl, Isaura Barrera, and Reed Tuckson, with a special address by Samuel Meisels. For more information contact the Department of Developmental Services, at 1600 9th Street, Room 310, Sacramento, CA 95814, tel:(916) 654-2777.

November 24–27: The Child Welfare League of Canada and the Ontario Association of Children's Aid Societies will co-sponsor a national conference entitled "Canada's Children...Canada's Future," in Ottawa, Ontario. This week-long conference will explore children's welfare in Canada's present social and political climate. For information contact conference organizers at, 180 Argyle Avenue, Suite 312, Ottawa, Ontario, K2P 1B7, tel: (613) 235-4412.

As a member of the Coalition for America's Children, ZERO TO THREE urges you to put children first this year. Ask all candidates where they stand on children's issues. All children deserve good health, education, safety and security. As you head to the polls on November 5, find out first "who's for kids and who's just kidding."

December, 1996

December 6–8: ZERO TO THREE/National Center for Infants, Toddlers and Families will hold its Eleventh National Training Institute in Washington, DC. Presenters will include Kathryn Barnard, T. Berry Brazelton, Maria Chavez, Robert N. Emde, Gilbert Foley, Nathan Fox, Magda Gerber, Linda Gilkerson, Antoine Guedeney, Stanley Greenspan, Gloria Johnson-Powell, Pnina Klien, J. Ronald Lally, Alicia Lieberman, Samuel J. Meisels, Lucy Jane Miller, Edward Pitt, Kyle Pruett, Arnold Sameroff, Rebecca Shahmoon Shanok, Louis Torelli, Serena Wieder, and G. Gordon Williamson. For program information contact ZERO TO THREE - NTI, PO Box 7270, McLean, VA, 22106-7270, tel: (703) 356-8300.

December 8–11: The Council for Exceptional Children's Division for Early Childhood (DEC) will hold its Twelfth Annual International Early Childhood Conference on Children with Special Needs in Phoenix, AZ. Contact The Council for Exceptional Children, PO 1920 Association Drive, Reston, VA, 22091-1589, tel: (800) 845-6232.

Call for presentations

The Norwegian Centre for Child Research invites interested persons to submit abstracts for proposed presentations to be considered for the international, interdisciplinary "Urban Childhood" conference to be held in Trondheim, Norway, June 9 - 12, 1997. The conference sets out to discuss various aspects of children's living conditions in cities, which will be related to the United Nation's Convention on the Rights of the Child. Proposed topics should have their focus in one or more of the following areas; street children, child labor, children in urban war zones and violent environments, physical environment and health, media ecology and the influence of modern media on urban childhood, children's perspectives on the quality of urban life, or urban play. **Abstracts of 200 words must be submitted by December 1, 1996** to the Norwegian Centre for Child Research, Norwegian University of Science and Technology, N-7055 Dragvoll, NORWAY, tel: +47 73 59 62 40, fax: +47 73 59 62 39, E-mail: Noseb@avh.unit.no, or via the World Wide Web at: [http://smulen.smu.unit.no/web/noseb/noseb/htm].

ZERO TO THREE's 11th National Training Institute December 6–8, 1996 Washington, DC

Washington Hilton Hotel and Towers.

ZERO TO THREE's National Training Institute is designed specifically for practitioners, administrators, prarents, advocates, researchers, and educators—all those involved in any aspect of infant/family development.

Among the faculty for the Institute, special forums, workshops, and pre-institute seminars are:
Marie Anzalone, Kathryn Barnard, Judith Bertacchi, T. Berry Brazelton, Roger Brown, Maria Chavez, Barbara Clinton, Maria Jose Cordeiro, Richard Cornell, Adele Diamond, Robert N. Emde, Gilbert Foley, Nathan Fox, Magda Gerber, Linda Gilkerson, Antoine Guedeney, Stanley Greenspan, Megan Gunnar, Gloria Johnson-Powell, Brenda Jones, Margaret Jones, Barbara Kalmanson, Helen Keith, Portia Kennel, Carol Klass, Pnina Klein, J. Ronald Lally, Alicia Lieberman, Claire Littman, Ginger Mach Ward, Samuel Meisels, Matthew Melmed, Harriet Meyer, Lucy Jane Miller, Trudi Norman Murch, Maria Elena Orrego, Joy Osofsky, Edward Pitt, Kyle Pruett, Sara Radlinski, David Raphael, Arnold Sameroff, Lois Sexton, Rebecca Shahmoon Shanok, Margaret Sheridan, Jean Thomas, Louis Torelli, Wilma Wells, Amy Wetherby, Serena Wieder, and G. Gordon Williamson.

For a preliminary program, including a registration form, contact ZERO TO THREE/NTI, P.O. Box 7270, McLean, VA 22106-7270, tel: (703) 356-8300, fax: (703) 790-7237.

ZERO TO THREE

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